



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

```
1 CGGGCGCGGC GCGGCGGCG GTGACAGCGG CGCCCGCGCC TCCCGCGCGC
51 TAGGTGTGCG GCGCGCTCCT GGCGAGGACG GAGCGAGCAG ATCTCGCGTG
101 CGCTCGCCGC CCGGCGCAGC CCAGCCCGGC CCGCGCTGG CGCCGCGAGC
151 CGAGGTGTCT CCGGCGCCCG CGCCCGTGTC GCCCGCGTGC CCGCGAGCGG
201 GAGCCGGAGT CGCCCGCGCC CGAGCGCAGC CGAGCGCAGC CCGAGCCCGT
251 CCGCGCGCGC CATGGCCACC ACGGTGACCT GCACCCGCTT CACCGACGAG
301 TACCAGCTCT ACGAGGATAT TGGCAAGGGG GCTTTCTCTG TGGTCCGACG
351 CTGTGTCAAG CTCTGCACCG GCCATGAGTA TGCAGCCAAG ATCATCAACA
401 CCAAGAAGCT GTCAGCCAGA GATCACCAGA AGCTGGAGAG AGAGGCTCGG
451 ATCTGCCGCC TTCTGAAGCA TTCCAACATC GTGCGTCTCC ACGACAGCAT
501 CTCCGAGGAG GGCTTCCACT ACCTGGTCTT CGATCTGGTC ACTGGTGGGG
551 AGCTCTTTGA AGACATTGTG GCGAGAGAGT ACTACAGCGA GGCTGATGCC
601 AGTCACTGTA TCCAGCAGAT CCTGGAGGCC GTTCTCCATT GTCACCAAAT
651 GGGGTCGTC CACAGAGACC TCAAGCCGGA GAACCTGCTT CTGGCCAGCA
701 AGTGCAAAGG GGCTGCAGTG AAGCTGGCAG ACTTCGGCCT AGCTATCGAG
751 GTGCAGGGGG ACCAGCAGGC ATGGTTTGGT TTCGCTGGCA CACCAGGCTA
801 CCTGTCCCCC GAGGTCCTTC GCAAAGAGGC GTATGGCAAG CCTGTGGACA
851 TCTGGGCATG TGGGGTGATC CTGTACATCC TGCTCGTGGG CTACCCACCC
901 TTCTGGGACG AGGACCAGCA CAAGCTGTAC CAGCAGATCA AGGCTGGTGC
951 CTATGACTTC CCGTCCCCTG AGTGGGACAC CGTCACTCCT GAAGCCAAAA
1001 ACCTCATCAA CCAGATGCTG ACCATCAACC CTGCCAAGCG CATCACAGCC
1051 CATGAGGCCC TGAAGCACCC GTGGGTCTGC CAACGCTCCA CGGTAGCATC
1101 CATGATGCAC AGACAGGAGA CTGTGGAGTG TCTGAAAAAG TTCAATGCCA
1151 GGAGAAAGCT CAAGGAGGCC ATCTCACCA CCATGCTGGC CACACGGAAT
1201 TTCTCAGTGG GCAGACAGAC CACCGCTCCG GCCACAATGT CCACCGCGGC
1251 CTCCGGCACC ACCATGGGGC TGGTGAACA AGCCAAGAGT TTA CTCAACA
1301 AGAAAGCAGA TGGAGTCAAG CCCAGACGA ATAGCACCAA AAACAGTGCA
1351 GCCGCCACCA GCCCCAAAGG GACGCTTCCT CCTGCCGCC TGGAGCCTCA
1401 AACCACCGTC ATCCATAACC CAGTGGACGG GATTAAGGAG TCTTCTGACA
1451 GTGCCAATAC CACCATAGAG GATGAAGACG CTAAAGCCCG GAAGCAGGAG
1501 ATCATTAAAG CCACGGAGCA GTCATCGAG GCCGTCAACA ACGGTGACTT
1551 TGAGGCCCTAC GCATTCTACT TCGAGAACCT GCTGGCCAAG AACAGCAAGC
1601 CGATCCACAC GACCATCCTG AACCACACG TGCACGTCAT TGGAGAGGAT
1651 GCCGCCTGCA TCGCTTACAT CCGGCTCAG CAGTACATTG ACGGGCAGGG
1701 CCGGCCCGC ACCAGCCAGT CTGAGGAGAC CCGCGTGTGG CACCGCCGCG
1751 ACGGCAAGTG GCAGAACGTG CACTTCCACT GCTCGGGCGC GCCTGTGGCC
1801 CCGCTGCAGT GAAGCCAAGG GAGGGGCACA GAATGGGGAA CAGGACACAG
1851 GATCCTAAAC TCCAAGGGGA CTGTCCACCG ATGAACACTC AGAGTGGACA
1901 CCATCTTCCG TCCACGCTGT GCCCAGGACA GCTGTCCCA TCCATGAACA
1951 CAGGGTAAAC ATCTGCCGGG CTCCGCACCA GTGGCTCCCT GGGCCATGGG
2001 ACAGCGGCAG GGCTCACCAC GGACAGCAG TGGCCAGCA GCCGGCCACC
2051 CTGGCGTCCT GGGGCCCTCT CCCCTCCTCT CCCTCTCACC TTGTCACCTC
2101 CACGGAGCTG CCTGTCTGGG ATAATTGGG GATTTTTTTT TCTGGGGGAT
2151 AATTCTTTTG CATGACCCCT AAAGAGCAAG CCACACCGGT CTGCTAGCTA
2201 GGTGTCCGCG GTGTGGTG (SEQ ID NO:1)
```

**FEATURES:**

5'UTR: 1-261  
Start Codon: 262  
Stop Codon: 1810  
3'UTR: 1813

FIGURE 1A



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

**Homologous proteins:**  
Top 10 BLAST Hits

			Score	E
CRA 18000005245285	/altid=gi 5326757	/def=gb AAD42035.1 AF07880...	1047	0.0
CRA 18000005199792	/altid=gi 10835006	/def=ref NP_001211.1  cal...	1044	0.0
CRA 18000004938668	/altid=gi 6671660	/def=ref NP_031621.1  calc...	1039	0.0
CRA 18000004937301	/altid=gi 11120682	/def=ref NP_068507.1  Ca+...	1038	0.0
CRA 18000005245287	/altid=gi 5326762	/def=gb AAD42037.1 AF08192...	1001	0.0
CRA 18000005171302	/altid=gi 3668373	/def=gb AAC79460.1  (AF085...	999	0.0
CRA 1000737074531	/altid=gi 6688228	/def=emb CAB65122.1  (AJ252...	986	0.0
CRA 18000005245288	/altid=gi 5326764	/def=gb AAD42038.1 AF08341...	986	0.0
CRA 18000004964693	/altid=gi 466360	/def=gb AAA81938.1  (U06636...	982	0.0
CRA 18000005199791	/altid=gi 4139268	/def=gb AAD03743.1  (AF112...	982	0.0

BLAST dbEST hits:

	Score	E
gi 12801212 /dataset=dbest /taxon=960...	1675	0.0
gi 12868201 /dataset=dbest /taxon=960...	1453	0.0
gi 2053138 /dataset=dbest /taxon=9606 ...	1247	0.0
gi 10213950 /dataset=dbest /taxon=96...	1243	0.0
gi 9324431 /dataset=dbest /taxon=960...	1233	0.0
gi 12921378 /dataset=dbest /taxon=960...	910	0.0

**EXPRESSION INFORMATION FOR MODULATORY USE:**

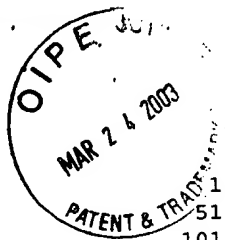
library source:

From BLAST dbEST hits:

- gi|12801212 Fetal brain
- gi|12868201 Fetal brain
- gi|2053138 Testis
- gi|10213950 Lung small cell carcinoma
- gi|9324431 uterus endometrium adenocarcinoma cell libe
- gi|12921378 Fetal brain

Tissue expression from PCR-based tissue screening panels:  
hippocampus

**FIGURE 1B**



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

1 MATTVTCTRF TDEYQLYEDI GKGAFSVRR CVKLCTGHEY AAKIINTKKL  
51 SARDHQKLER EARICRLKHSNIVRLHDSI SEEGFHYLVF DLVTGGELFE  
101 DIVAREYYSE ADASHCQQI LEAVLHCHQM GVVHRDLKPE NLLLASKCKG  
151 AAVKLADFGL AIEVQGDQQA WFGFAGTPGY LSPEVLRKEA YGKPVDIWAC  
201 GVILYILLVG YPPFWEDEQH KLYQQIKAGA YDFPSPWDVTPEAKNLIN  
251 QMLTINPAKR ITAHEALKHP WVCQRSTVAS MMHRQETVEC LKKFNARRKL  
301 KGAILTTMLA TRNFSVGRQT TAPATMSTAA SGTMTGLVEQ AKSLLNKKAD  
351 GVKPQTNSTK NSAAATSPKG TLPPAALEPQ TTVIHNPVDG IKESSDSANT  
401 TIEDEDAKAR KQEIIKTEQ LIEAVNNGDF EAYAFYFENL LAKNSKPIHT  
451 TILNPHVHVI GEDAACIAYI RLTQYIDGQG RPRTSQSEET RVWHRRDGKW  
501 QNVHFHCSGA PVAPLQ (SEQ ID NO:2)

#### FEATURES:

##### Functional domains and key regions:

[1] PDOC00001 PS00001 ASN\_GLYCOSYLATION  
N-glycosylation site

Number of matches: 3

1	313-316 NFSV	(residues 313-316 of SEQ ID NO:2)
2	357-360 NSTK	(residues 357-360 of SEQ ID NO:2)
3	399-402 NTTI	(residues 399-402 of SEQ ID NO:2)

[2] PDOC00004 PS00004 CAMP\_PHOSPHO\_SITE  
cAMP- and cGMP-dependent protein kinase phosphorylation site

Number of matches: 2

1	48-51 KKLS	(residues 48-51 of SEQ ID NO:2)
2	259-262 KRIT	(residues 259-262 of SEQ ID NO:2)

[3] PDOC00005 PS00005 PKC\_PHOSPHO\_SITE  
Protein kinase C phosphorylation site

Number of matches: 4

1	47-49 TKK
2	51-53 SAR
3	358-360 STK
4	367-369 SPK

[4] PDOC00006 PS00006 CK2\_PHOSPHO\_SITE  
Casein kinase II phosphorylation site

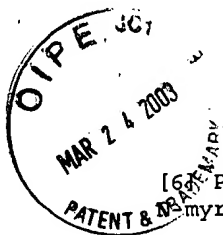
Number of matches: 9

1	36-39 TGHE	(residues 36-39 of SEQ ID NO:2)
2	51-54 SARD	(residues 51-54 of SEQ ID NO:2)
3	79-82 SISE	(residues 79-82 of SEQ ID NO:2)
4	94-97 TGGE	(residues 94-97 of SEQ ID NO:2)
5	109-112 SEAD	(residues 109-112 of SEQ ID NO:2)
6	262-265 TAHE	(residues 262-265 of SEQ ID NO:2)
7	400-403 TTIE	(residues 400-403 of SEQ ID NO:2)
8	401-404 TIED	(residues 401-404 of SEQ ID NO:2)
9	485-488 SQSE	(residues 485-488 of SEQ ID NO:2)

[5] PDOC00007 PS00007 TYR\_PHOSPHO\_SITE  
Tyrosine kinase phosphorylation site

9-17 RFTDEYQLY (residues 9-17 of SEQ ID NO:2)

## FIGURE 2A



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

[6] PDOC00008 PS00008 MYRISTYL  
myristoylation site

Number of matches: 3

- 1 302-307 GAILTT (residues 302-307 of SEQ ID NO:2)
- 2 332-337 GTTMGL (residues 332-337 of SEQ ID NO:2)
- 3 390-395 GIKESS (residues 390-395 of SEQ ID NO:2)

[7] PDOC00100 PS00107 PROTEIN\_KINASE\_ATP  
Protein kinases ATP-binding region signature

20-43 IGKGAFSVVRRRCVKLCTGHEYAAK (residues 20-43 of SEQ ID NO:2)

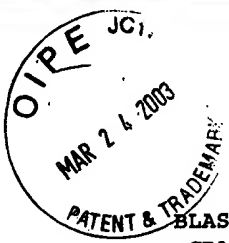
[8] PDOC00100 PS00108 PROTEIN\_KINASE\_ST  
Serine/Threonine protein kinases active-site signature

132-144 VVHRDLKPENLLL (residues 132-144 of SEQ ID NO:2)

Membrane spanning structure and domains:

Helix	Begin	End	Score	Certainty
1	195	215	1.665	Certain
2	319	339	1.301	Certain

FIGURE 2B



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

**BLAST Alignment to Top Hit:**

>CRA|18000005245285 /altid=gi|5326757 /def=gb|AAD42035.1|AF078803\_1  
(AF078803) calcium/calmodulin-dependent protein kinase II  
beta subunit; CAM2 [Homo sapiens] /org=Homo sapiens  
/taxon=9606 /dataset=nraa /length=542  
Length = 542

Score = 1047 bits (2678), Expect = 0.0  
Identities = 516/542 (95%), Positives = 516/542 (95%), Gaps = 26/542 (4%)  
Frame = +1

Query: 1 MATTVTCTRFTDEYQLYEDIGKGAFSVVRRVCVKLCTGHEYAAKIINTKKLSARDHQKLER 180  
MATTVTCTRFTDEYQLYEDIGKGAFSVVRRVCVKLCTGHEYAAKIINTKKLSARDHQKLER  
Sbjct: 1 MATTVTCTRFTDEYQLYEDIGKGAFSVVRRVCVKLCTGHEYAAKIINTKKLSARDHQKLER 60

Query: 181 EARICRLLKHSNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQI 360  
EARICRLLKHSNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQI  
Sbjct: 61 EARICRLLKHSNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQI 120

Query: 361 LEAVLHCHQMGGVVRDLKPENLLLASKCKGAAVKLADFGLAIEVQGDQQAWFGFAGTPGY 540  
LEAVLHCHQMGGVVRDLKPENLLLASKCKGAAVKLADFGLAIEVQGDQQAWFGFAGTPGY  
Sbjct: 121 LEAVLHCHQMGGVVRDLKPENLLLASKCKGAAVKLADFGLAIEVQGDQQAWFGFAGTPGY 180

Query: 541 LSPEVLRKEAYGKPVDIWACGVILYILLVGYPFFWDEDQHKLYQQIKAGAYDFPSPWDT 720  
LSPEVLRKEAYGKPVDIWACGVILYILLVGYPFFWDEDQHKLYQQIKAGAYDFPSPWDT  
Sbjct: 181 LSPEVLRKEAYGKPVDIWACGVILYILLVGYPFFWDEDQHKLYQQIKAGAYDFPSPWDT 240

Query: 721 VTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVASMMHRQETVECLKKFNARRKL 900  
VTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVASMMHRQETVECLKKFNARRKL  
Sbjct: 241 VTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVASMMHRQETVECLKKFNARRKL 300

Query: 901 KGAILTTMLATRNFSVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKADGVKQPQTNSTK 1080  
KGAILTTMLATRNFSVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKADGVKQPQTNSTK  
Sbjct: 301 KGAILTTMLATRNFSVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKADGVKQPQTNSTK 360

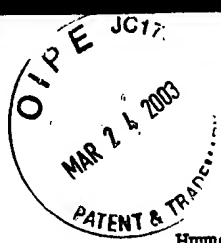
Query: 1081 NSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEI IKTTEQ 1260  
NSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEI IKTTEQ  
Sbjct: 361 NSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEI IKTTEQ 420

Query: 1261 LIEAVNNGDFEAYA-----FYFENLLAKNSKPIHTTILN 1362  
LIEAVNNGDFEAYA FYFENLLAKNSKPIHTTILN  
Sbjct: 421 LIEAVNNGDFEAYAKICDPLTSFEPEALGNLVEGMDFHRFYFENLLAKNSKPIHTTILN 480

Query: 1363 PHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRRDGKWQNVHFCSGAPVAP 1542  
PHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRRDGKWQNVHFCSGAPVAP  
Sbjct: 481 PHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRRDGKWQNVHFCSGAPVAP 540

Query: 1543 LQ 1548 (SEQ ID NO:2)  
LQ  
Sbjct: 541 LQ 542 (SEQ ID NO:4)

**FIGURE 2C**



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

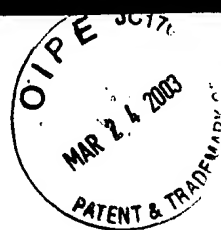
Hammer search results (Pfam):

Model	Description	Score	E-value	N
PF00069	Eukaryotic protein kinase domain	306.2	3.9e-88	1
CE00022	CE00022 MAGUK_subfamily_d	293.8	1.3e-86	1
CE00359	E00359 bone_morphogenetic_protein_receptor	15.0	0.0015	1
CE00031	CE00031 VEGFR	0.9	2.1	1
CE00287	CE00287 PTK_Eph_orphan_receptor	-65.4	0.00046	1
CE00292	CE00292 PTK_membrane_span	-77.0	0.00018	1
CE00291	CE00291 PTK_fgf_receptor	-93.1	0.0021	1
CE00286	E00286 PTK_EGF_receptor	-132.2	0.0059	1
CE00290	CE00290 PTK_Trk_family	-161.3	0.00033	1
CE00016	CE00016 GSK_glycogen_synthase_kinase	-196.7	9.2e-06	1

Parsed for domains:

Model	Domain	seq-f	seq-t	hmm-f	hmm-t	score	E-value
CE00359	1/1	132	186 ..	272	327 ..	15.0	0.0015
CE00031	1/1	133	205 ..	1068	1139 ..	0.9	2.1
CE00286	1/1	14	252 ..	1	263 []	-132.2	0.0059
CE00290	1/1	15	253 ..	1	282 []	-161.3	0.00033
CE00291	1/1	14	267 ..	1	285 []	-93.1	0.0021
CE00292	1/1	14	267 ..	1	288 []	-77.0	0.00018
CE00287	1/1	14	270 ..	1	260 []	-65.4	0.00046
PF00069	1/1	14	272 ..	1	278 []	306.2	3.9e-88
CE00022	1/1	10	305 ..	13	316 ..	293.8	1.3e-86
CE00016	1/1	1	343 [.	1	433 []	-196.7	9.2e-06

FIGURE 2D



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

1 GAGCTGCTGT GTCTCTGTCC CCAGGGGCGAG AGGGGCTGTG GGGTTGCAGG  
51 CTCAGCGTCT GGGACTCTGG GGTGAAGGCT CAGCCATGCC CTGCAGACAC  
101 CATGGGGCAG GGCTCAGACC TGTGCACCTG TCTCTTGCAA ACCACTGTTT  
151 TCTCTGTTTT GTAACCCCCC ACCCAACCCC ACATAACACC TCTGGGTTTA  
201 AACACATGC ACCCTTGTGC CGGTACCTC CCTGCAGCCG GAGAACCTGC  
251 TTCTGGCCAG CAAGTGCAAA GGGGCTGCAG TGAAGCTGGC AGACTTCGGC  
301 CTAGCTATCG AGGTGCAGGG GGACCAGCAG GCATGGTTTG GTGAGTGCCA  
351 GGGGCAGGGT GTGTTGGCTG GCAGTTGGCA GGGCAGGAGG TGATGCTGAC  
401 AGCCCCCTGT GGCCTCTTCC CCTCTCTCTA GGTTCGCTG GCACACCAGG  
451 CTACCTGTCC CCTGAGGTCC TTCGCAAAGA GGCGTATGGC AAGCCTGTGG  
501 ACATCTGGGC ATGTGGTGAG GCCTGGCCTG AGTTGGTGCG GGGCAGGGCC  
551 TCGGGTGT TT CAGGACTTCC CACCTACATC CTGGAGTGTG CAGTGGCCAG  
601 CACGTCTTGC TCTCATCTGG GTTTATCTGT GTCAGACCTG CCCTTGAGCT  
651 GCCCTGGCAG GGGTCTGCCC ACACAGCCAA GAGCCCCCTT TCCACCCAGA  
701 TTAGAATTGC TCACATGAAC CTGGCGCACC CCAGTGCTCG CCTGCGCTCA  
751 GCAGAGGTCT GGTCCAGAAG TGTGGTGGGT GGATGGGAGT GGAGAAGAGA  
801 GGTCAGGGGC TGTTGGGCCA TGGGCAGGGC CACCTCCTTG GGTAGGGGTC  
851 TCCTCCACCA GAGGTGGGGA GCAGCAGAGG GGCTTGACAT CACCCTCATC  
901 CCTGTGATAG TGTGGGTGTG GGGCAGAGGT CAGGGGGCCG GCTGTGCCCT  
951 TCTACCCAG TGTCTGCTGC ACAGGTGGGG GCAAAGGAAT GCTGAGGACC  
1001 CCAATGCCCT CCCAGGGCCA CAGGAGCTAG GCAGTGAGGG TGCAGGGCAT  
1051 GGGCTTCATG GACGGTGGCA CCCTGCAAGT GGCTGCGGTG CTCACAGGCC  
1101 CCATCCGAG GGGTGATCCT GTACATCCTG CTCGTGGGCT ACCCACCCTT  
1151 CTGGGACGAG GACCAACACA AGCTGTACCA GCAGATCAAG GCTGGTGCCT  
1201 ATGACGTGAG TGCACAGCC CCTCTCTGAT GAGCTCCCTT CCTCCAGGTG  
1251 TGGCCGGGTG AGGGCAGCGT GGGAAGAGGC TAGGAGTGGG GTGAAGCCAC  
1301 CTGTGGCCAG GTCCTGGGTC CTGCTCTCCC AGATTCTGTG CTGGAGATGA  
1351 AGCCCCCTTG AGAATTCTTG CCCCTGCCTG AGAGGGAGCT TCAGGCCCCG  
1401 CCGGGGCGCT GTTTCCTTCT GCAGTTCCCG TCCCCTGAGT GGGACACCGT  
1451 CACTCCTGAA GCCAAAAACC TCATCAACCA GATGCTGACC ATCAACCCTG  
1501 CCAAGCGCAT CACAGCCCAT CAGGCCCTGA AGCACCCTG GGTCTGCGTG  
1551 AGTCGCCCTT GGTGCCCATG GTGGGGAGGG GGCTCCTGGT GGAGATGGCC  
1601 TCAGACCACT CCCCTGGCAA GGACCCCAAG AGGGTCCCTG TCCTGACATC  
1651 CAAGAGCTCC CTTGGGTCCC CTGGGTGCTC CTTGTGGCCT CTGGCTTGGG  
1701 ACATACCAGC ACCTTTGTGA GGCCTGGGGC TTGGAAGGCA TTAGAGGGTA  
1751 GAGGTGATCC CTTCCTCCCA ACTGCAGTCC TGTCTGTGAG GGGCAGAGTG  
1801 GACGAGGCAA GGGAGAGACG AGTCTTGAAG TCCCAGGCGG GTGGGGACAG  
1851 ACAACCCCTG CCGCAATGGT GGCCGGTGGC TCTTGGAAG TGGGGACCCC  
1901 AGGGTGCCAC AAGCCTTGCC ACCCTGGCCT CTCCCCTGTG CCTCGGGCTC  
1951 GGCTGCCATA TGACCACCCA TTTCCCCACA GCAACGCTCC ACGGTAGCAT  
2001 CCATGATGCA CAGACAGGAG ACTGTGGAGT GTCTGAAAAA GTTCAATGCC  
2051 AGGAGAAAGC TCAAGGTGAG GCCCTGGCCC CTAGTCCCAG GCACGGCCAT  
2101 GCTTCTCTGT GTCCCTCTGG GCTGGAGCAG GGGGGCCTTG GGGGGTCTGG  
2151 GCAGACCTAG GGGTTACTGC TGCCCCAAG ACTGACTGTT AGCAAGTCCC  
2201 AGACTGGATG CATCAGGTGA ACTCAGGCCA GCTTGGGAAT GAGTCCAGAG  
2251 GGGCCCTGGG CCAGGTGTGG CTCCTCCTAG TTGTCTGTGC CACCTCCTAG  
2301 CAGCCCTTGG AGGAGCTGTC CTGAAGCGCT CGCTGTGGGC TCCTCACCCG  
2351 GGCTCTGCAG GCAGCACTCA CCCTCTGGCA GTCACACTGT TTAGTACAAG  
2401 CAAGTCCGAA GCTTCCGGCT CAGACAGGTT TGGTAAGGAG AGCAGAGCCA  
2451 CACACACTGG TCTTGGGTGG GCTGGGGGAG TTCTGGGAGG GAGGTGGGTC  
2501 CCAGTAGGGT ATCCAACCTG CCTGCTTTGG TCAGGGCTGG CTCCGGTGAC  
2551 CGCACACTGG CAGTCCCTCT ACTTGTGGGT TCCGGGATGG GGACTTGTGT  
2601 CCTGACTGCC CTCTGCTGGT CTCTGAGCAG TTCTCCCCGG AAGCCCCAGG  
2651 ACTGTTGCCC TGTCTGAGCC TGTGAGGAAA AGAAGGGGCT GTCAGGGAGC  
2701 TGGACCCAG AGGAGCTGCC GTGGTGACCA GCTGTCTGTT TGACCCCTGA  
2751 GGCTTGAGGG GTCTTGAAGC AGCTAGAAGC TGTAGTTGGT CAACAGGTTT  
2801 AGGCCCAGGG TGTGTGTAGT TCTGGAAATA GGTGATCTGT CTCAGTGCGG  
2851 CTGCTGGCTT CCTGGAGCTC TTGCCTCTCT GGAAGGCTGA GGTGATGTCA  
2901 GCCTCATGAC AATGAGGCTG AGCATCTGGG CAGGAGGACA GGGGTCTTAT  
2951 CCTGGCCAGA AGCCAGCAGG GAACACTGAT GGGATAGCCC CGGTTTTATC  
3001 TGTGTCTCTC CCCAGGGAGC CATCCTCACC ACCATGCTGG CCACACGGAA  
3051 TTTCTCAGGT GAGCCTTTCT TCTCCAGGGA GACAGGCGCT GCCCCCTCCC

FIGURE 3A

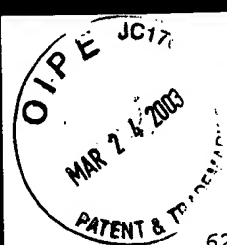
01P  
MAR 24 2003  
PATENT & TT

Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

3101 TGCTGGCCCA CGCAGGAGAG CGCCTCCTTC CTCACCAGCC TCTCCACTCC  
3151 TCCTCTGCGG CAGGCCTGCC CTCGGCGTCT GCCCTCAGCT CTGAGACCCA  
3201 CTGCCCACCT GGCCCCGCTG GGCTCCCACC TTGGGTGATA CCACAGGGTC  
3251 CAGCCCCCGG AGGCCATCAC CTTCTGTGCTG GGTCTGTGTC CCTCCACCCC  
3301 CTGAACACGA GCGTCTGTGC TGCCCCACTG GGGCTCACAG CATCGTGTGT  
3351 GTCTGTCCAG GCGTTTGTGC GGCATCTATG TGGCCTCCTT GTCATTTTGA  
3401 GTGCTCTGAA CATTGTGTTT TGTGCGGGAG GTGGGCAGAA GGGATGCGGG  
3451 GTGATGCGGG AGGCTCGGGG GCCTCCTTCC AAGTTCTGGA TGAGCTGCAG  
3501 CCTCCTGTCC CGGCTGTCTA GGGTGGGTGG TTGGGAAGCA AGTTCTCTTG  
3551 GCAGGGGGGT GGGGTCTGTT ATAGACCCCT GAGGCCAGG GCGCTGGCAG  
3601 ACCCATCGGG GCATGATGTT AGCCCCGGAG TGGAGCCGGC AGCCCAGGTC  
3651 TGGACAAGCT GTACCTGTGG CTTCTCCGTC GTCCGACACT CCGTGTGCGA  
3701 GCGTCTGTGA TCCGTCTCTC TCGTTGTCCG TTTGCATCTG GTGCCCCCA  
3751 CCGCCATCC TGTTACTTTT GCTGTGATGC TGTAATGCCG GGAACGCGTG  
3801 CACACGGTCA CACCAACACT AATAGGACTG TCCTGTCTGC TGTGTGCTCA  
3851 CCACACCCCT TGGGCATGAG AAGCCCCAC TGGGGTTTTT TAAGGAGAAA  
3901 GGAGGCAAAT GCTTTTCCGT GTCAATCAGT CCAATCTTGT TTTCACTCTC  
3951 TTGAGCAAAG GATTCTGGAA CCATCTGTCA CCTAAACTTT AACTCTAATC  
4001 TTCTTCTGCT TCCTTTGTCT CTTTCTCTCC CTTACCTCGC CCACCCCTCG  
4051 TCTGTGTCCG CCCACCCCTC CTTCCCTC GTCTCTAACC CGGTGCTAAC  
4101 AGTGGGCAGA CAGACCACCG CTCCGGCCAC AATGTCCACC GCGGCTCCG  
4151 GCACCACCAT GGGGCTGGTG GAACAAGGTA GATGTGTCTC GACCAGCGTC  
4201 CCGCCCGCTC CCGCCCGTCC CTCCTGCCAG CATGCAGCCC CCTGTCTCAC  
4251 GCAGCCGCTG CCGGGCTCC AGAGCCGCC CAGAGGCCGC CAGGCCCCCG  
4301 GGAGCCCCGT CTCCCGTGTG GTCACATCCC AGCAGAGCCC ACCACAAGGG  
4351 CAGGGAGGCA GCCCCAAGG CTCCTCGCCT GTAAGAGGAG GGGCTGGGCT  
4401 AGGTGGCCCC TGGGCTACAC CAAGCCCTTC TGGTCTGGC CCCCAGGTC  
4451 TGGGGGTCCG GAGACCCCA TTAAGAATGG CCTGGGCCCC ACAGGGAGCC  
4501 ACTGGGCCTG CTGCTGGGGG GTCTGAATCC TGAAGGAGA GCCTTGAGGA  
4551 GCAGAGCCAG AGAGGCAGAG GCCCTTGGGG CAGACACACA CCCTGCCCTT  
4601 CTGGGGCCGC ATGGAGACGG TGGTCTGTGC TGCTGAGTCC TACACATGCA  
4651 TGTCTGCCCT GAGCATCCCC CCAGGACAAG CCGCTCTGGA GTGGGTGAGG  
4701 GTTTTATGCA CCCTGAGGAG ACTTTCAAGG CTTCTCTTG GGTGTGTTCT  
4751 GCAAAGTCCT CCTCCCTGG CCTCAAACCC TGTGAGGGAA AAGGCCGCA  
4801 CTGGCCACCT GTCCTCTGG GCTGTGCGGG GCCAGAGCCC AGAGGCCAA  
4851 GTTGGCTTCT GCCCACCTGC TGGCTTGTA CCATGGGCAG ACCCATGAG  
4901 GGCTAGGCGA CCCCAGACC TCCTTGAGC TCCAGCCTGA GCTGAAGGCT  
4951 GGTGAGAGCT TAGGGCAGGC CAAGCTGACA ACGCCTGGCC ACAGAACACA  
5001 GAGGGCTACA GGGGTGACCC CAGATCCTCC CTGGGCTGAG CTGCTGAGTT  
5051 CCCTGTGCGT GCCTCCAACG TGGGCTGGGG ACCCGGCAGA GGTTCCAGGG  
5101 TGCTGGAGAC TGCCCTCCCC AGGCCTCCTC ATGACCCACA GGGTGAGCAG  
5151 CCTGGCCTTC CCAGCCAGAG AACCTCCTT CTGGGGAGGC CCAGGGCGTC  
5201 CTCGGGGAGG GCAGTCTATT CTCTCCCAT GAGCCAGTG GACGTGTCTA  
5251 GCAGGCAGCA CCCCAGGAGA GCCCTCCAC GTCTTCTCCA TTTGACAGGC  
5301 CTTTCCAGAG CGCAGGCGGG AGGGGCTGT GATTAGAAAA GAGTGAGGCT  
5351 AGTGGCTTCT GGGGAGGCAC TGCTGCCAG GGGACAGTGC TGAGAGACAG  
5401 CTGCCTCTAC GCTGCCCTGT GCCCGGGCT CCCGCTGCAA TGCCCGCCTG  
5451 TCTGCAAGTG AACGTGGGGC GACGGTGCAT GAGGCCCTGC ATGTGTGGCT  
5501 CCACCCTGGG CGCCGAGAGC AGCTCTGTCC TGGAGGGTGG TCAGTGCATG  
5551 TGGACAGAGC CCAGCATGGC TGTCTGGGT GACCAGCTAA GGGGACAAGG  
5601 CAGAGGCAGG GCTGAGAGGA CCACCCATCC TGCTAGGTCA GCCCAGCTCA  
5651 GCCATATCAC ACGGCAGTGA GCATGGAGCT CAGTTCTCTG CCAATGGCAG  
5701 CTGAGTCTAG TACCATCCAG TCAGAGTCTG GTACCAGCCC ATGTGGCATA  
5751 GCCCCCTCGG CCCGAGAGA GACCCGCTCT GTCGAGTGTG CTTCAGTTTG  
5801 GCCTCTGTGG TCTCTCTGC ATTGATCAGG TGTAAGGGCA TAGGAGACCC  
5851 AGTGTCCGGC CAGCTGCAGG GTGGCAGCAG TTGCCCCGGC CTGGAGACCC  
5901 GGGAAATGGG AGTGCCCTCC CAGGATGGAG GGCAGAGGGT CTCTCCTTGT  
5951 CCCACAGAGG CCTGCAGAAC CCCCACCCA GGTGTCTGAG ATGCCTGTGA  
6001 CTGCTCCGCC TACCCTGGGC TCCTGCGGCA CCTAACGCAT GCTTTGAACT  
6051 TGAGACACAG AAAGGAAGTT CCCGTGCCCT TGAATGCTAG TGTAGATGGG  
6101 CATCGACAGG ACTCTGGCCA CCGTGAATCT GGAGTTAGTC CCAGGCAGAG  
6151 ATGTGAAATG AGCAGCCCC CAAAAAATGG TTGGCCGGGA GCCATGCACT

FIGURE 3B





Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

6201 CAGGAGGGCC GGGCCCATGC ACCCCACACT GCGCCCAAGG CGTGCACAAG  
6251 CGATTGTTTT AAAAGCGGGT TCACAAGGAA GGATGTTTGG GAACTGACTG  
6301 AGACAACAGG GACGCTGCT GCAGGGCTTC CCAGAGCTCT GATGGCAGCG  
6351 TCGGCCTGAG TCCTTCGAGG AGGGCTGGTT TGTACGTGGC ATTTGCTGCC  
6401 CACTGGACTG TGAACCTCTG TCTTTTATT TCCCACTGCT GCTGTGGTAC  
6451 ATCTCCAGTA GCATAGTTTG GAAATGCAGG TTTTGATAGA CTCAAGGATC  
6501 TAAATAGAAC CCTCTTAGTA CCAAGGACTG TCCGGGGTCT CTGCCAGCCC  
6551 CGCCGATGGG CCTAAGTGTG GTGCCTCCTT TCCTGTGAGA ATCTTCTGAG  
6601 GACATGCCCG GGGAAAGAGC TCAGTTCTGC TGCTGCCTAG GGTGCCATGC  
6651 TGGCCCCGGT TCCAATGCAG AGCCTAGCTG GAAGTACCGC TGGGTGGCG  
6701 GAGGCTACGT GCCTGACTGT CCCCTCGGGG GTGGGGTGGG ACTAGCCTTC  
6751 TGAAACCGCC TGCTTCAGTT GGCCACAGCT TTTTGAAATG TGTGTTTCTG  
6801 GAAGGGACTG GGTCCCTTCC TTGCCTGTTC AGCTCCCCAC GACAAATGTC  
6851 CTCAAGGCGA GGCTGGATGC TTCCTTCCTC AGGCTCCTAG GAGGAGCCCCG  
6901 TCCCCCAGCT GTGTCGGGCA GCTGGTCACC AGCAAGGACA GGATCCCTCA  
6951 GCTGCAGCCT CAGGCTGGCT GGCCTGGGC GGGTGTTCCT GGGATGAGTT  
7001 GTGTGTACTG GAGATGGGAG GGGAGCTGAG AGGGTGGGAT GCACAGACAG  
7051 GAGAGGGGAC TGTGGGGTCT CTGGAACCCT GAGTTCCAAG TCTTCAGGAC  
7101 TCTCCCTCCA TAGCAAGTTA CAGGGAAGCA GATTTGAGCC ACAGGGAAGC  
7151 AGATTTGAGC TGCAGCGAGG GGGAGGGTTT TCAGTCTGTG CTATAGGGAA  
7201 GTGGGCAGTC GGCATTTCTG GTCCTGGGAA CTCCTGGGC AGGGCTGCCT  
7251 TGGGACATCA GGGAGGTGGC GCTGTGTCTA GCTTCACCAG GAGGGGCCTT  
7301 AGGCCTGGGG ACGGAGAGTG ATGCCTGAGG CCCCTCTACT TCTCCATGGA  
7351 TCCTGGGAGG GACTCCTGGG CTGGATACAA AATTGTTGAG AGTTAAGAGA  
7401 TCTGTGAGGA AGGGGAGGCT GGGAAATAGAA AGTGTGTGCC CACTGCACAT  
7451 GGGGTCCGCA GGGCCACGTG CAGCCACTGC GCAGGCACAA CCCCAGTCCC  
7501 CACAGAGCCC AGGAGGGGCC AGAGCCATGG AGGAGGCAGC ACTGGGCATT  
7551 TGGACAGGGA GGGGGTGGTC AGCAGGCAGC AGGCCCAGGC CTGTCTATGC  
7601 CCTGCGGGGT GCAGCCTCCT GATCTCCACG GCAACCTGGA GCACCCAGCG  
7651 TCAGAACCAC CGGGAGGGCT TATGGAACAG ATGTCCAGCC CTGCAGAAGT  
7701 TCTGGCTCAG GAGGGCGGGG TGGGCCTGGG AATTGTGCATT TCTGACTGTA  
7751 CAGGGCGATT CTGCTGCTGC TGCTGCTGCT GGGGTGGGG GAGGATCCCA  
7801 TTTGAGAAGC GCTGCAGTCC TAGGTTGAAA CGTGCCTGTC TGTCCCCACC  
7851 CAGGCTGCA TGGGCAGCAC GGGATCCCCA GGCAGGAGGA CCCAATTTC  
7901 TGGCCTGGCC AGCCAGGGTC CTGGAGCCAG GCGGTGGGG AGGGATGGGG  
7951 GATTGCTGTG CCACCTTCCT TCCCGGCTTG GCCCGGGGGC AAGCATCCTC  
8001 ACACCTCCCA TGTGTCATC CCCTTGGCTC CAGCCTGGCT GCCTCTCTAA  
8051 CCCTGCTGTA CCGCTGGCC GCATGGCCCT GGCTCTTTT GGTGAGCGTG  
8101 GTCCAGGACT GGTGACCTGT GAGTCCTGGG CCCGCAGTCT TGCGCCCCTG  
8151 CCCGAACCAA CACAAATCTT GTTTCTCTC TCTCTCTTCC TTCCTCACTC  
8201 CCTCCCTTTC TCACCTTTTC TTTTCTGTAA GGTAAGCTGA CTTCTCTTTT  
8251 TGGTTTTTTA TTTATTTTTA TTTTCTAGTT CTGTAATTAA AATCCTAACA  
8301 GCCATGGAGG TGTTGGGCAC CGGGGGCTGG GGCCAGGCC CTCTGACCTC  
8351 TGAGGGGGAA TGCTGGGTGA GGCAGGGGCC CCGCTGCTGG GACCAAGTAT  
8401 CCTCAGGGGC TTGTGGGCAG AAAGGCCTGT GCTGGCCCCA GTCAGTGCAC  
8451 AGAAGCGGCC CCAAGGCCAG GGCTGCTGGG CAGCTCGGAA TGAGGGCGAG  
8501 CAGGGCTGCC CTTGGTGCTT GAGCCAAGGA GCCAATGGGA CAGACCTCTG  
8551 AGCCTGGGTG CCAAGTATGA GGTCTGAGAC AGGGTGAGCG CCTGGGCTGG  
8601 GACAAGGCC TCTGAGTGGG CGGCCAGCTG CAGCCCCACC ACCCTACCC  
8651 CAGGAAGGCA GGGCCCGGGA GGGCATGACC TCTGGGGTGC TGGCTCAGCT  
8701 GCCCCCACC CAACCTGACA CCGCTAGTCC TGAGTTCCCA TCAGGGAGGA  
8751 AGCAGCATCC TGCCTTCCTC TAGGAAGAGC TTGCATGTGG CCCAGAAGCC  
8801 AAGGGGGCTC CCCAGACCC ACGGCATCT CTGGGTCTGG TCAGAGGAGA  
8851 AATCTGGATG CTTGCAGGAG CCCCAGGGTC ATGGAGGAGG CTGGAGACAG  
8901 GGCTGTCTTG GGGTGATGGG ATGGCCCCC CACCTGCTCA GAGCCAGCCT  
8951 GGGTGCTGGA ACCACACTG CCTCAGGACC CTGGGCTTGC TCCTGGGGAA  
9001 AGAGTGGGGT CAGGCAAAGG GGTGGGGTTG CGCTGCAGCG AGACCCAGGC  
9051 CCATCACTCA CCATACCTTC TTCCTCCCCA TGCAGCAGCC AAGAGTTTAC  
9101 TCAACAAGAA AGCAGATGGA GTCAAGGTGA GGCTCCAGCC GGGCCCTGTG  
9151 GTGCCGGGGA GCCCAGAGCC TGCAGCTTCA CCCCCACGCC CTGGGGCTCC  
9201 TGCTCTGGAG TCCCCCTCCC CCCATGCCCT GAGAGACACG GGACAGGGAA  
9251 TGGCGAGTGA GGGGCTTCTC CCACCTAAGA GTTCTCTTCC CCTCTCTCCA

FIGURE 3C

OIPE  
MAR 24 2003  
PATENT

Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

9301 CAGCCCCAGA CGAATAGCAC CAAAAACAGT GCAGCCGCCA CCAGCCCCAA  
9351 AGGGACGCTT CCTCCTGCCG CCCTGGTACT GAGCTCCTCA AATTCTGCCT  
9401 CTCAGCCCCT CCTACGCCCC TGGCTGTGTG ATTGCCGCTG GTCAGAGGGG  
9451 GCCGGGTGAA GGTGGGGTCT GGGCCCGCCT GGCCTGTCTG ACAGCACTCG  
9501 CATGGCCCCC GCCCCTCATC CCTCACCGGT GGTGAAGTGG AGAGAAGAGG  
9551 CCACTGTTGT GGGGGGCTCC AATTCAGACA GGTTTAGGAC TGCTCTGGGG  
9601 AGCCCCCTGGC TGAGACCCAC AGATGTTGGG GTGCAGGGGA GAGGCCCCAGC  
9651 CTCCCACCCA TGTTGACTTG TGGATGTCTC TCCAGGAGTG TTCAGGAAGT  
9701 CAGTGAGGCA GAAGATACCC TCTCCCCACC AGGACCCAC CCTCAGCTCC  
9751 TCCACCATCC TCAACAGGCC GACCCACAGA CCACTCCGAA GGTCTGGCTT  
9801 GGTGGGGCTG GGCAGGATC TGCAGGGGGA ACAGCCATA GTGGCACATT  
9851 CCACGGCCCA TGGGGAGACG GGGCCACGGT GGTGCAGTAG AGAGGTGTCT  
9901 AAGCCAGTGG CAGCCAAGGG GAGGGCTGCG CGTCACCTCT GTGTTCCCTC  
9951 AGTGCTGCTC TGTGGCTGCC TGAGAGGCAG GGCTTAGGGG CTCCCTGCCG  
10001 GGGAGGGGAG GGGTCCCCAC CATGCTCCGC TCCAAGTGC CCCCTCAGTG  
10051 CCCCTTGCCC TGGGGGCTCC TACAGGTGAA CCCTATAGCA GTACTCCCA  
10101 GGATGTAAAG TTGTGGCTGG TGGGTGCCGG CCTTCTGCT GGGGCGCTGT  
10151 GCTGTGTCCC CTCAGCTGTC CTAAGAGCTT TGGGGCTTGC TGGCCCGTAG  
10201 GTCCCATAT TTGCTGGAAG CAGGCTTGGT GTCCCTGAG AACCCAGGC  
10251 CAGGCTTCGG GAGCCAGCCC CAGACCGCCC ACGGGAATAC TGGGTTTGCC  
10301 AAATGGCCAC CTTGAGACCC AGGAGAGGAG AGCGGTCTTG GGAGGGGCGA  
10351 GCTGCTCAGA GCAGCCAGGC CGTGGCTGGA GGGTGGCTG GTGCAGCCTA  
10401 CCTAGGGCCT TCCAGTGGCC AGGGCAGCCC ACGTGCCAGC CTCACAGCCA  
10451 GCCCCATCTC GGACCCTGTC CATCCCATGT GCCACCGCCA CCCCATGAC  
10501 ATCTTCAAACT CTGTGCCCCC CACCACGCTG GGGCACAGGT TCAGGCAGTA  
10551 AAGGGTAGGG AGAACCCCTC AAGACCGAGC CTGGCTTCTC TGGCTCCCAC  
10601 ACACATTGTG CAGCTTGTG GGGCCCCACA CGGTCCATCT CCCACCCTGG  
10651 ACAGCAGCAC CTCGCGCAGC CTGGACAGAG CTCCTGTCCA TTCCATCCCT  
10701 GCCGGCTGAC CCAGGCTCCT CCCCCAGCTG CTCCACGCCG CCTCCATCCC  
10751 TGTCCCCCAC TCTGCTCTGC ACTTCTTTCT CGCAGGCTCT GGCCACCCAC  
10801 ACCTCCTCTG TCTCCCTGTT CCCCTCCTGG TGGTCTCCGC TTCTCCTCT  
10851 TCTCACTTTC CCTCTCTTTC CTTCCTCTGT GTCTTCTCTC TTCTGTAGGA  
10901 GCCTCAAACC ACCGTCATCC ATAACCCAGT GGACGGGATT AAGGTACTGC  
10951 CCCACTTTCC TCCTCCCGCT TTCCCCAGGC AGGAGGCTCC AGGCCAGGAG  
11001 AGAGGTCTGG GGCAGCATTT GTGCCAGAGT GGAGGGCAGA TGTCCCATGG  
11051 CCCTGGCCGC CCCTCCCCGC AGTACGGTAG GGCCCCAGTC CGTCTCTGTC  
11101 GGCAACAACA GGACAGACTG GCTCAGGCCC CAGGCGCGCC CCTGGAGGTG  
11151 CTTGGCACAG TTGCGCCCGG TCCCCATGTG GCCGACATC TCAGACCAGG  
11201 GCTCTGCGTG TCCCACCTAC GGCAGGCAGT AGGGCTTCTC GAGGTCTGGA  
11251 GCAGGGCCTG CATCTCAGGA GCTGCATCCT TGGCCCTCCT GGCTGTCTCT  
11301 CACCCACCT CCCTCAGTG GCCCCAGTG CTTCTGCTG AGCAGACCCT  
11351 CCCTCCTCTG CTCCCCCTC TGCTCTGGCC ATCAGCTCCC ATCACATTGG  
11401 CATCATCACT CTGGGGCCAG GGAAGGGGCT GGCTCTCTGG GGTGGTGGGA  
11451 GGGATGGGGC CAGCAGCCAA GCCATTTCOA GGACTTCCAA AACAGCGCCA  
11501 CTACACCCAA CACGGCCCTC CAGCCAGCT CCCACCTAGG CCTGGGCTCC  
11551 TTACAGAGCC CCCAGAGTGC CTCTGTGGGG ACCCCCCACT TCCTTCTGGC  
11601 CAGTGCCACC ACCCAGCCCA TCATCAGAAG ACATCTTTCT CCATGGCAGG  
11651 GACCAGGGGG TCCAAGGGG ACCCATGGTG CTAGGCACCA GGGCCTGGGC  
11701 ATTCTTCCCA TCTGGCAGCT GGGGATGGGT GCCCTGGGA CCCGTGTGTG  
11751 TCTGGGGTGG GTCATGCTCT CTGCAGGACT CCTAAACAAC CTTCTGGGCT  
11801 GTGGTGAAC CTGAGCCTGC ACCTAAAGA CCTGTAGTTC TGGTCTAGGG  
11851 CCTCCAAGCA GTGTCCAGGC AGTGTCCAGA CCAGGGGGCG GTCCCCCAGG  
11901 GACCTTGTAAT GATGTTTCTT CTGAGGAGCA GAGCAGGCCT CCTGGGGACC  
11951 TGGGGGATGG TCTTTTGAAG GGCAGCAGCC CTGGAGCAGG GTGGGAGAGT  
12001 CTGGGGCCAC CTCTGCCCTC TAAGGCCACC TGAGAGGTGA GGCCGGGGCC  
12051 TGAAGTGGAC TCCAGTCCCA GAGGGGCAGG TGCCCTGAGG GAATGTGGGC  
12101 GACAGGAATG CTCTGCCCTG GGCAGGCCA AGGTTCTCTG AGCCCTGTGC  
12151 GGATCTGCAG AGCTCCTGGG AACGCCTCAC CCTGTATTTT GGATGACACC  
12201 GGCTGCTGCT TCATTGGAAC CAGCCAGTCC CATTGTGTTT TACGTCTTGG  
12251 AATTTCAAAA AGCCCATTTT CCTCTCTTGT TAAAGAGTCA GCTGAGCATA  
12301 CCAGTCTCTC TGCCAGGCTC ATCTTGCTGG GAGAAGTGA GCCCTCATGT  
12351 GTTGGGGATG CAGGGTGGCC ACAGCACTAG GGTGGCAGGG CCGGCCTCGG

FIGURE 3D

12401 ACTCCGTGCC AGCCTGTGCT GGCTGCCGTG AGAATGCACC CTGGTGAGGG  
12451 GCGCCCTCCC AGGGACCAGC ACAGAACTGG GTGTCTTCTC CGGTCACTGC  
12501 CGCATGAGGT CCACAGAGCT GGGGCCCTGC AGCCGCCAGA GGGCATGTCC  
12551 CCTGAGCCCC TGGCCTTTAA GCCCCGTGGA AGCAGCCGAG GCAGAGATCA  
12601 GCTTCAGAGC CTGGGTGGT CTTGACACAG GCCCAGCCCT GTCCACCTGC  
12651 CCTCAGCCAC GTCCACCTA TCCTTGCCG CATCCTGACC CGCTGCCTCC  
12701 CGTGTTCCTT CAGGAGTCTT CTGACAGTGC CAATACCACC ATAGAGGATG  
12751 AAGACGCTAA AGGTACCTGC ACTTGAGTCC TTGCCCCCCC AGCGGCCTTG  
12801 GCATTGCTGG GTTGCTCTTT GAGGTGGGTG GGACTTGGGC AGGGTCAACT  
12851 CTCCTGCGAC GCCTAGTTTA TGCATGTGTT GAGGGGCTCA GGGACCCTGT  
12901 AGCTGTAATC CTGCTCCAAG CCTGGGTGTC AGGCCTGCCC AGAGCGGAGA  
12951 AGCATGGCAG AGATGACCGA CAGCTGGGCA GTCTCGGTCA CCGCATCCAA  
13001 GTGAGGAAGC CACGGCTTTG CATGGAGGCA GGTTCCTCCAC ACCAGGACCC  
13051 TCACGGGGAA ACAGGCCCAT GGGTAGAATT TGTTCCAAGA TGCTGTCTTT  
13101 GTCTTAAAGC TCCTTAAAGT TGCGTTTCTG TCCAGCATGC ACTTGCCAAG  
13151 TGGCCCGGCA GCTGGGTGAG TGTTTCCGTG TTTGCCTTTG CTTAGCCAGG  
13201 AGTGTCTTGC TGCGGTGGGT TTCTGCACCA CAGATTCCAG GGCCCCCTCC  
13251 CTTGCTCACC CAGGCCAATG TCTTGTGTGT TCCCAAGAG GCCCCCAGGG  
13301 CACCAGGCAC TGGGGCATGC TCCATGGATT CTGCCGCCCTC CAGACCACCC  
13351 ACATGGGGCC TCCTGACCCT CATCGCTCAC ACGGTCACCT AATAAGCCTT  
13401 ATGCTGTTCT CAGGGCTACC CTGGTGCCCA AAAAGGGTCA GCCACTCTGC  
13451 CAGTTTAGGG GAGAAAATT CTCACCTGTC CAAAGCATAG CCTTGCTCCT  
13501 GCCCGGCCTA CCAAGCTATG ACACCTGTCC TGAGCAGAGA TGAGCACAGG  
13551 ACTTTGGGCC CTGGATGCCG GAGAGTGGGT GTTTGTGTGA TTCCCTGCA  
13601 GTCTGGAACA GGCCCCAAG GCAACAGCAT GAAGGCTGTC CAGAGGTTCT  
13651 CCATCACCCT CAGCCGAGTG GGGTGTGTAG CAGTGAGGGA GGGGACCTGG  
13701 GAGGGGGGCC CAGCCTGGAT CCTGCAGGGG AGAAGAGAAG ACAGCCAGAA  
13751 GCCAGCAGCT GTGGCTCAGA TCTGAGCCCG AGCAGCCTCT CGAGGTGGAG  
13801 GCAGACACCC CCCACCCAC CCCGTGCAGA AAGAAGCCTT GCCAGCCTGC  
13851 CCTGAGGCTG GTACAGAGTC CAGGCAGGCT CAGTGCCCAT CATGCCCTA  
13901 CGATGACTGT CACTCCCTCT CCGTGCCTCT GGCCTCTGCT GGCTCTGGCC  
13951 AGGGGTGGTC ACAGCACTAG GGTGGCAGGG TGGCCTCTGA CTCTGCGCCA  
14001 GCCTGCACTG GCCTGTGCTG CCCTGGCCTC TGCTGGCTCT GGCTCTGGCA  
14051 CCGGTCCCGT GTTGGCTCCT TCAGCCTTCA CATACTGCT GCGGCCACCA  
14101 CAGGCCCAGG ACCCCACAG GGTGGCCACC CCACCTCCAC CCCAGGAGCC  
14151 CCAGGTATCC AGCTGTCACC CCCTCCCTCC CTCCTGGCCT CCCCCTGTCC  
14201 TTCTCCAGTT GCCTTCTTTT CCTGCGGGCG CACCACCCAC CTGCCTGCCT  
14251 CACCTGTTCG GCCTCAGCCC CCAGGGTCCC CGACATCTG AGCTCAGTGA  
14301 GGAGGGGCTC GGGAGCCCCA GAAGCCGAGG GGCCCCTGCC CTGCCATCT  
14351 CCGGCTCCCT TTAGCCCCCT GCCAGCCCCA TGTAAGTAG CTGGGTCTCTG  
14401 CTGCTGTGGG GGTCATGTTG GAGGGCTGGC AACCCTTAG AGGGGCCACT  
14451 CCAGAGCCGA GGGCAGGCTG AGCGTGGACC CTGGCTCCAG CCTCATCACC  
14501 CCACAATCCC TCACTGGGGC TTTCCAGGGT GGCCCCAGCC CATCGAGCCC  
14551 CACCTCTTTG TGAGGAGGGC CCTGGACCAC TTCTCTGCTC AAGGCCACTG  
14601 GGCAGGATGG GAGGCCCTGG AGGCTCGGGC CTCAATTCCA GTCTTCAGGG  
14651 TCGGTGCAGG CCTCACTCCA CCTCAGCTTG CCGGCGGGGG GGCTCCCTGC  
14701 TATTGAGGCA GGTCTGATT CAGGGCTGA TCCCAGGGCC CAAGGGGTCT  
14751 AGAACACGGG ACCCTCCCA CTGGCCTCCT CCGCTTGCC GCGCCTCGT  
14801 GTGTCTGTCT GCCTCATGTT CACGTCTCAT CTGTTCACC CCAGCCCCCA  
14851 GGGATCTCTG ACATCCTGAA CTCTGTGAGA AGGGGTTCAG GAACCCCA  
14901 AGCCGAGGGC CCCCTCTCAG CCGGGCCCCC GCCCTGCCTG TCTCCGGCTC  
14951 TCCTAGGCCC CCTGTCTCC CCGTGTAAAGT AGTGGCCCCC AGGCCTGCCG  
15001 CCTCTGCTGC CGGACAGCTC CCTGCGAATG GCCGCGCTC AGCAGCTTCC  
15051 CACCTGCATG CACGGCCAG CTACCCTGCC CCGGCGCCGC AGCCTGGAGT  
15101 CCTGCCCTGG CGGGGCTTCC TGTGGGTCC CATGCTAACC AGCAGGGCAG  
15151 CTCTGGCTT CTCCCTAAGG GGCCAGACC CCTCCACGGC TCCTGTCTCC  
15201 ACTGCCACTC CCCGCTCGCT GTCCAGCCCC AGGCCCTCT CCAAAATGTC  
15251 TGTCACAGCC CTGGGCAGCC CTGGCCCCC CGAGGCCCCC CATGCCCTA  
15301 GGCCCTCTCT GTGATCACT GTCCAGCCC CACAGACTTC ACACCCACCC  
15351 AGGGGCCCTG CCCATGGTGC CCAGGAGCTG CACTCAGGGC CACCCTGGTT  
15401 CCTGATGTGG CCCCAACCCC TGAGCACCTT CCCTCAGTCT AGGAGGCTGA  
15451 GGAAGGTGCC AAAACTGGAA CCCCAGCCAG GGTCTCTGGA GCTCACCAAC

FIGURE 3E

OIP E JC17  
MAR 24 2003  
PATENT

Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

15501 AAGGGGATAG TACGGAGAAT CATAAGCCTG GCCTCTGCTG ACCTGGGCTG  
15551 TCCTCATGGG GCCAGGCCAG GCCTCCTCTG TAACGCCCGT GACTCCCTCC  
15601 TCTCCCTGTA ACCCCGTCCA GCGTTCTCTA AGGGCCACTT ACCTGACAGC  
15651 TTCTTGCTGG CCAGCAGCCT CTCCCTGGAG GGTGCCCTCT GCCCCAGCA  
15701 GCTTCAGCCC ACGCCACCCG ACAGCCAGAG CATCTGCCCT TCACTCTGCG  
15751 AGCCTCCTCT CCACGCACCA CGCTGTCCGC AGCAGCACCC TCTGTCCCCC  
15801 TGTCTCCCTC CGTCCCCCA TATCCCCCTC GGTCAGCCTA CAACCTCTCC  
15851 ACGTCCCCCT AAGTCCACGC TCTATCCCTA CATCCCCCTC TGTCCCCCAA  
15901 ATTCCCTCTT TTCCCTCATT TCCATTTTCC TCCCCAACT CTGCTCTGCC  
15951 CCTCACATTC TCCCTCTGTC CCCCACACC TCCTCTGTCC CCCACACCTT  
16001 CCTGTGTCCC CCACACCCTC CTCTGTCCCC CATATACCCC TCTGTCCCCC  
16051 ACACCCACCT TGGTCCCTTG CACGCCCTTT TCTGTCCCCC ACACCCCTCT  
16101 TGTTCCTTAC ACTCTCCCTC TGTCTCCAG ACCCTCCTCT GTCCCCCACA  
16151 CTCCCTCTGT CCCCACACC CCCTGTCCCC CACACTCTCC CTCTGCCCCC  
16201 CAGACCCTCC TCTGTCCCTT AACTCCCTC TGTCCCCAT ATCCCCCTCT  
16251 GTCCCCCACA CCCTCCTCTG TCCCTCACCC CCTGCCCCC ATACCCCTT  
16301 CTGTCCCCCA CACTTCTCTT GTCTTCCACA CCCCCTCTG TCCCCACAC  
16351 CCCCTCTGTC CCCCAGACTC TCCCTCTGTC CCCCACACTC CGTCTGTCCC  
16401 CCACACCTCC TGTCTTCCAC ACCCCCTTCT GTCCCCACA CCCCCTCTGT  
16451 CCCCATACT CTCTCTGTC CCCCACCTCC CCTCTGTTCC CCACACCGCT  
16501 TCTGTCCCCC ACACCCCTCT TGTCTTCCAC TTCCCTCTG TCCCCACAT  
16551 CCCCCTCTGT CCCCCTGCACC CTCTCTGTG CCACATCCCC CTCTGTCTC CACACTCCCT  
16601 CATGCACCTC TCTCTGTCCC CCACATCCCC CTCTGTCTC CACACTCCCT  
16651 CTGTCCCCCA CATCCACCTT GGTCCCCCTA CGCACCCCCA TCCCCATGA  
16701 CCCCTTCTGT CCCCACACC CCCTCTGTCT TCCACACCCC CCTCTGTCCC  
16751 CCACACCCAC CTGGGTCCCC TCATGCCCCC CATCCCTAC ACCCCCACTT  
16801 TGTCCCCCA CATGCCCTC TGTCCCCAC GTTCCCTTCT GTCTCCACG  
16851 TCTCTCCAT TTCCCGTTTC CCTCTCTGTC CCCCAGCTC CCCTCCATCC  
16901 CCCACATCCC CTCTTTTCCC CTATATCCCC TCTGTGCGCC CAGGTCCACC  
16951 ATCTTCCCCC CACACCCCCC CATTCTCCCT TCCTCCCTC TGTCCCTTG  
17001 TGCCCCATCC CCCACATCTG CCTCTGTGCC CCTCAATCTC TGGCTTGGCT  
17051 GTCTGCCCAT GGTCTCTCTC CTGCGTGCCC CCGTGCCCTG CTTGTGTTT  
17101 ACGTCTCGTC TGTTCGCCCC CAGCCCCCAG GATCTCTGAC ATCTGAAC  
17151 CTGTGAGGAG GGGCTCAGGG ACCCCAGAAG CCGAGGGCCC CTCGCCAGTG  
17201 GGGCCCCCGC CCTGCCCATC TCCGACTATC CCTGGCCCCC TGCCCCCCCC  
17251 ATGTAAGTAG CACCTTGAGT GGCCGTGGCA GCGGCTGCCT GGAGGGGCTC  
17301 GGGGCGTGCG AGCCTGGCAG TGGTGCTCTG GGAAGGGCCA TTCTTGCGGA  
17351 GGAGGGCGGG GCACAGGATC CCTCTGCTGG GTCCCAGGGA ATTGCTTTGA  
17401 AGCACATGAA GGTGCCACTG GGTCTCAGAA AATGGAGGTT ATGGTTATGA  
17451 AGTGTGTATG ACATATGTGT ATAGGAAGAG CGTCCGAAAG AGCAGGTTTG  
17501 TTGCCGACCC CAGCATTGCG AACCCTGAGG TCCACAGCTT TCTCCTGATG  
17551 GGAGGGGAAT GGGTGGCAAA GGGTCTGCGC GTGTGGCAAG GGCTAGCACG  
17601 CCAGGAGCTG CTGGCTTGGG TCAAGGTGGA CCTGCTGGGC CGGGACAGAA  
17651 AAGTGTCACT CCCGGCCTGA GACGCTCTAG CATTAGAGCT GTCCAAGTCC  
17701 AGACAGCAGG GAGCAGGTGG GGATCGGGAG GCGCGGATCT GGGGGGCAGC  
17751 TGGGGCCAGG CTGAAACAGA GCGGGCGGGA CAGGAAGCAC AGGCTGGGCA  
17801 GCCTCCCCCG CCAGGGAGGA GCCAGGCTGG GCCACCTCCC GGTCTGTCTG  
17851 CCGACTACCC GCAGTATCAC TTACAGGGAT GGATGACATC CCAGGGCTGC  
17901 TGCCACCCCC ACCTGTGGGG AGACACCAGA CTGGGGGTGG TGTGGAGATA  
17951 CTCTTAGAGA AGAGGCTGCT GGGCCACGGG CTCGGCATGG CAGGGCAGTG  
18001 GCTAGGTAAG TACTTGAGGG ACAGGTGGGG TCTGCTTGCC ACCGTCCCCT  
18051 CTGCAGGCTG GGCCTGGGGG CTGCTGCAGG CGGCCAGGGC AGAAGGGTGT  
18101 GGGGAGAGTG AACCCACAGG AGCAGCGGCT CGAGGAGGGG GATGCAGGCT  
18151 GCAGGCTCAA AGGGGCACTG GATCCACCCT GGGTGCCCGA GAGAGCAGGG  
18201 GGCAGCCCTT GGAGGGGTAC TCACCCCCAG AGCTTCTGTG GTCGGCTGAG  
18251 GACCCCAAGC AGGGGTGAC TGAGGGGATC AGAGGCAAGC AGCTGAGGGG  
18301 AGAGGCCAGG TTCTTGATGC TGATAGGGTC GGGGTGCTTG GGCAGACCAGA  
18351 ACTCAAGGAG GGAGGCATGG GGAGGGGCCG CCGTGCAGCT GGGGTGGGTG  
18401 CACCGCAGAG CCTCTGGGAG TGGTCAGAAC CCCCACACC TGCCACTTCT  
18451 ACAGCAGCTC ATCTGATTTT AAGGGGCTTG CTGCCCTTGC AGAAGTGGAG  
18501 GGGTGTGCCC AAAGGAGCCT GCCTGGAAGG TCACCCCATC AGGTTGGCAT  
18551 GACCCAGGCC CAGGACTGCA GCCTGCCCTC AAGGTCTGTG CAGTATCTGG

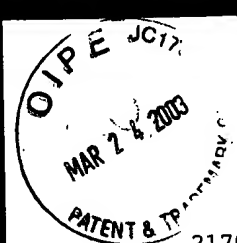
FIGURE 3F

OIP E JC17  
MAR 24 2003  
PATENT & TRADEMARK

Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

18601 GGTGAGTCCT CTGAGGACAG GGCCAGGGT GGGTGTGGAG TGGCCAGCTC  
18651 GGGGCTCGGT GTCCAGGCTC ACCTTCAGGG GCCACAGCAC AGACCTGCCC  
18701 TTCCAGAGTC TTCCCTGAGC TTGGCTGGGG AGGAGGGGGC TGCAGGAAGG  
18751 AGCTGTGAGC AGGGCAGGAT GGAGATTCGT GTGGCCCTCC TGGGAGGGGC  
18801 TGGGCAGGGC TGGGAAAGGG GTGGGTGAGA TGTTCGGAA CTCAGGGAAA  
18851 GGAAGAGTCT GGGTACTGCC CTGGGGGCAC CTGGGCCAG GTGGCAGGTG  
18901 GCCAGCTTTC TGCCTCCTTT CCACCTCCTT TCTCCAGAAG GCACCCACCA  
18951 GCTGTGTAAA TAGGGCAGGT GCCCAGGCC CGCCTCAGGC CCCGTCTCCT  
19001 CCCACCCAC GCTCTCTAAT CGCGGATTAT ACACAATCCA GCCTGATCCC  
19051 TGGGCAGCTG CCCTCCCTCC CGCAGCCACC TCTGGCTCTG AGAGATGGGC  
19101 TTGGGGCCAG CCTGGGGTCC CAGGAGTCCA GGCCAGGATG AGAACCTGCT  
19151 CTGACCCAC CTGGACGCAT TAGGCCTGCC TGGACCTGTT GCCTCACCCC  
19201 AAGAGAGCCA CAGGCAATGC AAAGGCTCCT GTTCATGTCA GGGCACCTGG  
19251 AAGGCCTGAC TTGCAGAGGC TCTTGGCTCG TGCAGACCCC TCCAAGCCCA  
19301 GGCCCTGCCC ACCACCTCCC CTTTGTCTCT GGAAGTCCA GGACAGCTTG  
19351 TCCTCAGCCA GCAGGTTTCC CGACCCGGGC ACCTCTTCAT GTTGGGCCCC  
19401 CCTCCTTTCC CTCCATCAGG GATCATGCCC TTCTTCAGGG GCCTGGATAT  
19451 CAAGGACACA AAAGCTCCCA TGTGCTATGT GGGGAGGCAG AGTGGGGGCT  
19501 GGGTTGAGCT GGGGTCTGGG CAGCGCCATT CCGCAGGGCA GGGGCAGCCT  
19551 AGGCTTCCCA TCTGTGGAAT GGGTGGGTGG GTCTCACAAC GGACCTGCTT  
19601 CCCGTAATTC AGCACGGTTA CCACTCTTGA TTGGAAGTCT GACCATGCAT  
19651 CTCCTCTTCT GTTTACTTCA CGCTTCTCT TCCCATCAAC TCCCATTTTA  
19701 ATTACAATTT GTTTAAAAGC ACTGCATATT ACTTCATTAA ACAGAAGATT  
19751 AGTTTCACTT ACCATTAGTG TAAGGTGACT ATAGAACCAA AGCAGACTGG  
19801 AAACCAAATG ACATAATGTC ATTCTCTTCT CCATTCCAGC TGCCTGCTGC  
19851 TGTGCGCCTG AGAACCCCTG TGGAGTGGGA GGGGCAGCTG TCTCTGTACA  
19901 TTAGAAAGGG AGGTTAACTA AGTGACAGGA GGTGTTTGGG ACATGTGGAC  
19951 ACCAGACTTC TCTCTTGATG CAAGGAGGGC AGAGCCAGGC AGCCTAGTGG  
20001 GGGCTGGCTT GGGGGCTGCT GGAAGGACTG GCTACAGGTG GAAGAGAGGT  
20051 CAGACCTGAA GCTTGGGGCC ACCTCCAGGA AAGGACAGGT GAAAGTGGAG  
20101 GCATGAGGCA GGGGAGAGGC AGGTGCCAGG CAGAGGGTGG AGAGGAGGCA  
20151 GGAACATAGC AGCTGGGGCG GGGGCGGGCC CTCAAGTGTC ATATGCTACT  
20201 TTCCTGGGGC CCAGGGGCAA GGACAGGAAC AGCCACAGCA TGTGTTGGGA  
20251 CAGAGCCCTG TGCCTTCCTA GAGCTGGGCA GGTGGAATGG GGCAGGAATG  
20301 GGAAGTGGG TGGCTGCAGC AGGAAGTGGG GGGGAAGGGG CTTCTGGATC  
20351 CTGCAGCCTA CCTTCCTAGA GGCCAGCTTT CCGGGGTCCA CCAGGTGGGT  
20401 GGGAACTGGG CTTGTGTAGC AAGACTGCCC TGAGGACCAT CCATGACATG  
20451 GTCTAGATGA AAGTTAGGAA AGAAAGGGAG ACAAGCTGGC AGCAGAAGTA  
20501 CAGCTGGGTC AGGAGCAAGG GCCTTTCCAG ATAGGGACAA CCCAAGAGTG  
20551 CACATGTGCC CACGCCACAC AACACAGGCA CACACGACAC GTGCACGCTC  
20601 ATAGGCACTG CACACACACA TGCACAGGTG CTCATGCATA TGTATGAGCT  
20651 TCATCTACAC ACATTCACAT GCCGTCCTGC TTATGTGCAT GTTCCATAC  
20701 ATGCACATGA ATGCACAATC ACGTGTACAC ACATGCATGT GATCACAATC  
20751 ATGAACATGT GTGCACCCCA CTCCTCAGGT GCCATCGGGC TCCTCCTGCT  
20801 GTCAGTGTGC AGCAGGGGAC ATGAGGCCCC AGAGCAGACA GGTGCAGCAC  
20851 AGGCGTTCCC AGGCAGTGCC CCACACACAT GCATGAGCAC ACCCGGGCAT  
20901 GTGGCGCCTC CTTTGTGGAC TCAGTCCACC TGCCAGGTGG GCTCCCTGGT  
20951 GGTGTGAGCT CCCAGAGGTC TGGCGAGAGA GATAAAGGCA ACCCCACCAC  
21001 CAGGCGTGCT GAGAATTCCC TCTTCTGGCT GGGCACAGTG GCTCATACCT  
21051 GTAATCCCAG CACTTTGGGA GGCCGAGGTG GGCAGATCAC TTGAGGTTAG  
21101 GAGTTTGGGA CCAGCCTGGC CAATATGGTG AAACCTCATC TCCACTAAAA  
21151 ATATACACAC AAAAAAATTA GCTGGGTGTG GTGGTGTGCA CCTGTAGTTC  
21201 CAGCTACTCG GGAGGCTGAG GCAGGAGAAAT CGCTTGAACC TGGGAGTCAG  
21251 AGACTGCAGT GAGCCGAGAT CATGTCACTG CACTCCAGCC CGGGTGACAG  
21301 AGTGAGACTC CATCTAAAAA AAAAAAGAA TTCCCTCCTC TGGGAATTTA  
21351 GACCACAGAC AGGTTGCATG TATGTGGCCG TTGGAGGCAG CACTCACAGC  
21401 AAAGAGTGGG AACGTCACCA CAGGGCCTGC CTTCTGGTGA AAATGGTGTC  
21451 CTGCAGGGCG GGCAGCTGTT TGAGGGCAGG TGTCCAGGT GCGGCCTGCA  
21501 GCAGCCTGAG GGTACAGAG CGCAGTGCTG GGAGTGACAG GACTTCCCCC  
21551 ACAGGGAGAG TTCCAGGAA CCTGCTTCCG GTGCACTTCT GGGGGTTTGA  
21601 GTTTTTTCCA CGGACGAATT ACTTTGAGAA ACCACTGTGA CTCGTGTGTA  
21651 TAGGTGAGCG TGCCTGTGCA TGTGTGTTCT GTGTGTGAGT GTGCATGTAT

FIGURE 3G

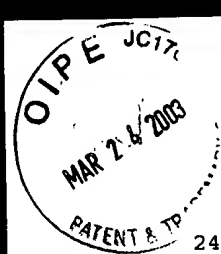


Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

21701 GTGCGTGCCT GCGTATATAT CCTCGCAGAT ACGGCTAGGG ACCTCACTCA  
21751 GGACAGTAGT TCTGCCTGAG GAGAGTGAAT GCGGCAAGAT TGAGGAGAAC  
21801 ACAGGCATCT TCAAACACA TGTGCGGTGC TTTATTTCTT TAAAAATGCG  
21851 TCTAAAGCAA ATAGGAAAAA GTTAAGATTT GAATCCGTAG AGTGTGGGTT  
21901 CTATTATCTT CTCCACATCT TCCATACGTT TAAAATCTTT TGCAATGAAA  
21951 ATAAGCTGTA GTTAAAGCAG CAATGCAGGC TGCCAGTGAG CGCCCCGGAG  
22001 GCCAGTGAGG ACCAGCATGG CTGGGTGGCC TGTGGAATC CAAGGGGGGC  
22051 GGGCAGGAGC TGCAGGCAGG CGCCCCGGAG TAGCCCCGGC ATGGGGGTGC  
22101 GGGGCAACAG GGATGTCTGC AGGGGTAGCA TGTGGGCCCC GGACTGCAAG  
22151 CAGGTGGAGC CAGCCGGATG CGGCTCCTAT GAGAAAAGCG GGAACAAGA  
22201 GACCACGCTC GTTCTTCTG CTGCGGGGAC AGCCCTGGTC ATCGCTCCGG  
22251 GGAACCTGTC AGCCTGCGCC GCACGTGGCC GCCCCCTGCT GCTTCTCCT  
22301 CCCC GGCCCTC CGGGTGGCCT TGCTGACGGC TCCTTCTCTG AGGCAGGTCT  
22351 CTGCCTTCTC GCCTGGTGCC TGCACTCAGT AGCCCCCTCA CCAGAGCTGC  
22401 TGGGTGAAGG AAGCACTAAG AACCCAAGGC TCGGGAGGAG AGTGGGGCCG  
22451 GGAAGCTGCA GGAAGCGCA GGGCCAGGCC TGGTGGGCC AGGGGCTGGC  
22501 TCACGGGAGG GCAGGAGGGA GACTGTGGCG GACAGCACGT GGGGCCAGGA  
22551 GGTGACCTCC AAGTGGATTG TGGGTGGGTT TTTTGTCTC TTTCTGCATT  
22601 TTCCAGGCAT TTTGTAATGT GGATAGAATA TTTCTGTTCT TCAAAAATAC  
22651 TTTAGTTAAG AAAAATAAGA TGGAAGCTGT TGCACTTGAA AATGAGGAAG  
22701 CCACTGGTGA TGCAGGGGGG GCGGCGGAGA GGACCTCTTC TGCAAATAGC  
22751 GGCAGGAACA CGGCATGGAT GCAGCTCGCG CTCCTCCAGG CCTCCCTG  
22801 GGCTGTGTGG AGGGGTCCGG GGGGAATGGG CCAGCGCCCA GTGGTCACCT  
22851 GGCCATGTCT CCCCACAGCC CGGAAGCAGG AGATCATTA GACCACGGAG  
22901 CAGCTCATCG AGGCCGTCAA CAACGGTGAC TTTGAGGCCT ACGCGTGAGT  
22951 CCTGGGGCT GGGGGGGGGC TGTGCAGGAC AAGGATGTGG GACCCTTGGG  
23001 GGGGCTGCT CAGAGTCAGG GGTCCACGGG GCCCCCTCTC ACTTGGATT  
23051 GGCCCCCAGG AAAATCTGTG ACCCAGGGCT GACCTCGTTT GAGCCTGAAG  
23101 CACTGGGCAA CCTGGTTGAA GGGATGGACT TCCACAGATT CTACTTCGAG  
23151 AACCTGAGT GAGGAAGCCC GGGTGGGCAT GAGGGGGCGG TGCCCCCAGG  
23201 AGAGCCTCTC GGCCCCCTCC AGGGACAGCA TGGTGGCTGC CTATGGAAGC  
23251 CCTGTCCCT CTGTGCCAG GGTGGCCAG CCACCTCTCC CCGCCAGAG  
23301 GCCATACCCA GCCCCAGAA TCCCACTCTT GGAGGGGGCC ATGCTGCTCC  
23351 CAGGAGAGCC GAGCCTCCCC AATAAGGGGA GTTGAGAGAG GGAAGGATT  
23401 AGGCTGGTGG GTGGAAGAC GGGCACCAGG GCAGTCATGG TAACCCGAGA  
23451 CCCCCGCCCC GCCTGCTGTC CACAGTGCTG GCCAAGAACA GCAAGCCGAT  
23501 CCACACGACC ATCCTGAACC CACACGTGCA CGTCATTGGA GAGGATGCCG  
23551 CCTGCATCGC TTACATCCGG CTCACGCAGT ACATTGACGG GCAGGGCCGG  
23601 CCCC GCACCA GCCAGTCTGA GGAGACCCGC GTGTGGCACC GCCGCGACGG  
23651 CAAGTGGCAG AACGTGCACT TCCACTGCTC GGGCGCGCCT GTGGCCCCGC  
23701 TGCAGTGAAG GTGAGTGTTC TGTGCTAAGT GACAGCTGGG GCAGAGGGGT  
23751 GGCGGTGTG TGAGTGGCTG CAGCCTGGGG AGGCGATGGG GAGCGGTGGG  
23801 GCCTGTGGCA GAGCCCATGC CTGGGAAGTC CCTGAGCTTT CCTGGTGAGG  
23851 CCACAGGAAT GATGTCAAAT TAGGGACCAC GGCAGGCTGG GTGTGGCAGG  
23901 CCTCCCCAGA GGA CTGGTGAGG GCCTGAGCAG TCCCACTGG  
23951 CCAGAGCTGG GTGGTTGCA GGTGGATGG CCCC GGCCAG CACAGTCTG  
24001 GGCACCATGC CTGTTTGTG AGGACTGTTA GAGCCCCAGA TGGGCGTTCC  
24051 CCAGGTGGTG GGTGCAGCGG GCCCAGAGCC CAGTTTTACA GGGATAGTAG  
24101 TAATTGGGTT GGGCACCTTG AACCTCTCTC CCGAGTGGGC CCTTTTCTGG  
24151 ACTTTAACCC TCTCTGCAGT GCCGCATGGC AGACAGCAGA GCCTGGGGGT  
24201 GGATGGGAGA GGGGGCTGCT GAGGAGCTGA CCCACCCGCC CCATTTTACA  
24251 GCTGCGCCCT GGTTCGCCG GACAGAGTTG GTGTTGGAG CCGACTGCC  
24301 CTCGGGCACA CGGCCTGCCT GTCGCATGTT TGTGTCTGCC TCGTTCCTC  
24351 CCCTGGTGCC TGTGTCTGCA GAAAAACAAG ACCAGATGTG ATTTGTTAAA  
24401 AAAAAAAAAA AAAAAAAAAA AAAAAACAAG ATGACGACGA CAACCACAAA  
24451 AAAAATTGAC ATCAGATGAA ATGAAAAAAA AAAAAACAA AAAAAACTAA  
24501 AGGAAGGAAA AAGCTGTAAA AATCACTGGC ATTCGTGGGG CCACTCCCCA  
24551 CCAAGCTCC ACGTGTGTCC GTCTGTGCTC CTGGCCTCTG GGGGACCAGC  
24601 TGGGACATGA ACTTGTCTGC CAGGCCCCCG TCGCGTGCTG AACGGTGTTA  
24651 GTTTGTAGGT AACGCACACA CCCCACACCT AAGGTGTCTG CATCTCCTG  
24701 CCAACGCATG GGCTCCACGT GGTGTGCTCG CTGGCTGTCG TGACTGTGAG  
24751 CTGTCTCTTG GGAGGGGCTG TGGGGGGCCG CTGGGCTGCC TCCTTTCCCG

FIGURE 3H

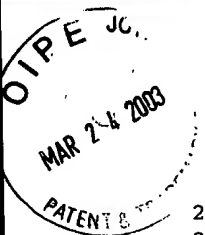




Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

24801 CTAGTTGTGC CTGAGAGTTG CTGTGTGTTCC TGCTTTCCCT TCCCTTCCTT  
24851 TCATCCCCCTG AAGGGCTAGG TGTGGGTTTT CCGTGCCCGG TATCCCCACA  
24901 CACCCAGCAC GGACAACCTT TCGGCAGAGC CCAGGCCCGC CCCTCACCCC  
24951 CTGGAGTATT GAAACTGGAG TCCCGTCCCC AAGGCCTTCA GAGATGCCCC  
25001 TACACACCCA GGGCTCCAGC TCTGGTCCCT CTGGGGGAGT AAAGTGCAAA  
25051 GAGGGGCACA GCTTAGTTTT GGGCCTCTCG CCGAGCAAGA GACAGCACTG  
25101 CTGGCTACAG CTCCAACACA GCCAGCTGTG GCAAGAGGAC TCTGCCTGGG  
25151 CTGGCCCCCTC TCCTGTGTGA GGTGTCTGTG CCTTCTCTGC TGGCCAGCAG  
25201 CAGATGCACT GGCAGCTCCC AACCCTGTTT CCGCCCCTCG GCCCTCCCCC  
25251 AGCCTGTTTCG GCTTCTCTGC AGCCCGCAAG GGGGAGCAGA CTTTTGACAA  
25301 AGGACTGCGG GCCTCGCTCA AGTCCCTGAG CCCCAGCTG AAGCTGGGAG  
25351 GGGAGGCCAG GCTTTGTGTC TGGGCATATT CGTCTGCTGA TGGGGTTTGG  
25401 GGAAGCCTGG GGCTTGGGGT TTGGTCCGGT GGTGCAGCTA GTGGCAGAGC  
25451 GGGATCAGAG GTGGTGGCTG CCCAGCTTCT GGGCTGAGAC AAGGGTCTGT  
25501 GCAGGGGTTT ACTGAAGTGG GAGTGCCTTT GGAATCTGGG CCGGGAGCAG  
25551 AAGGGAGCAA AAGCTACAGT GGGAGCCAGC CTAGGGCACA TGGGAGGCGT  
25601 GAGGGCAGTG CTGCCCCTGC AGTGTCAAGT GTGCCAGTGC CTGGCGGGC  
25651 TGCAGTGCCT GTGAGGGCAC CTTCTAGGTG GGCCAGGGAT GCAGCTATGG  
25701 AGATAAGGCG GGCTGGGGAC AGAAACAGGT GGGCACAGGG CCCAGGACAC  
25751 CAGCGGATGG AGGGCAGGGT CTAGCCCTGT GCTCCTGAGC GTCCGCTGCC  
25801 TGGGTTTCGAG GCGGTGGGTC CCCGGCCCCC TGTGATGGTG TGTACCATGG  
25851 GGGAGCTCGG GGCAGGGGCA AGCCCGAGCA TGGTGGGGCT GCAGGGTGGG  
25901 TCTGAAGCCA GGTGGGTGG GGGTGGTCAC AAGCCCTGAC TGCAGAGGGT  
25951 CAGGGGCTCC TGCCCCAGTG CCTGCCCACT TTCAATTAC ATTGTTTTCA  
26001 ACAAGGATTT TCTTTATCTT CCCCTACAAA TCAAGCCAAG GGAGGGGCAC  
26051 AGAATGGGGA ACAGGACACA GGATCCTAAA CTCCAAGGGG ACTGTCCACC  
26101 GATGAACACT CAGAGTGGAC ACCATCTTCC GTCCACGCTG TGCCCAGGAC  
26151 AGCTGTCCCC ATCCATGAAC ACAGGGTAAA CATCTGCCGG GCTCCGCACC  
26201 AGTGGCTCCC TGGGCCATGG GACAGCGGCA GGGCTACCA CGGACAGCAC  
26251 GTGGCCCAGC AGCCGGCCAC CCTGGCGTCC TGGGGCCTCC TCCCCTCCTC  
26301 TCCCTCTCAC CTTGTCACTT CCACGGAGCT GCCTGTCTGG GATAATTGG  
26351 GGATTTTTTT TCTGGGGGAT AATTCTTTTG CATGACCCCT AAAGAGCAAG  
26401 CCACACCGGT CTGCTAGCTA GGTGTCCGCG GTGTGGTGGT GGCGGCCGCT  
26451 GGCCAGCGCT GCAAGGGGTC GGCTGCCAC GGTGCTGGCT GGCCTCCCCC  
26501 CCTCTCTCTT TTTGCTGAGT TTCATTGTCT TTTCTTTCTG AGCCTTGTA  
26551 GTGTACAAAA ATTATTCTTA TTTTGTCTG TCTCGGAAA CTGCAAAATA  
26601 AAGAAAAACA GGACAACTG CTTCAAGTGC AGCTGGGTGC TTTAGCTGGA  
26651 ATCCTGCCGA CCTCTGCGC CAAAATACAG ACTCAAGCCC GGTCCCTGGC  
26701 CAAGACCCCTA CTTGGGCCCC TCCTCCAATG AAAGGTAGTG CTATGGGAGC  
26751 CCTGAGCTGG CCCTGACAGT CCTGAGCCCC TCTAGGGTGA ACGGCTCACC  
26801 CCAGGTAGGG CACTAGTCAT AGATCATAGC TCTACCAGCT GTCTCCACCT  
26851 CTTCTCTGCTG TCCTCTGAAG TCTTCTGGGC CCAGCGCTGT CCACCCTGAA  
26901 TGCTGGAAT GAAACTGGAT CCCAGCCCCC AACACCCCTG ACCTCTCCAT  
26951 TCACCCCCCG TGCCCGCTAA GGATGTGGCC AGGGCAGCCT CTGGGCAGGA  
27001 AGGAGCCCCA GGACCAAGAC CTCTGGCTGT CCTGCTGTTT CCTTCCGCCC  
27051 CTGCTACATG TATTGGCTAT TCTGGATGCT GAGGACACAC AGTGACCACA  
27101 GAGCCGGGCT CCACCCAGT GGATTATGCA GACAGATGGC ACGCAGGCCT  
27151 GTGTGGACAT CAGCCTCGGG CACCAGACAT AGGCAAGGCG CAAGGTGATA  
27201 CAGTAGGCAG CCACCATGGG GGCCAGGAGG CTCCAGCAGA GGCCACACAA  
27251 CCAGCCCGA ATCCAGGACA GAGAGCTGGA ATGGAGACAG GGAAGCCAGA  
27301 TACCAGGCCA GACTGGCCAG GTGCTACAGG CCTGTGGGCC AGGCCAGGCT  
27351 TGGGGACTTC GTCTGGGTG TGAAGGAGAC AGGCACCCCT GAGGCCTTCC  
27401 CTCTGCATCT CCAGCCCAAG CTAAGCGCAA ACTCTTAGGT TGGAGTAAGG  
27451 AGTAACCCCC TGCCAAGTTT CTCCTGTCTT CAGGCTCCAC CCACCACCTA  
27501 TGCTGCCTGG CCCCATGGGG CACACGCTCA GGCCAGCCT GGGAAAGCAA  
27551 CTGCACCTGC CTTGTCTATG CTGGCCCTTC TCAGCCTCAA TGCCCTCCTC  
27601 CCTCCCCGAC GCACCTCGT GGCCCCCGCT GGGCCCCCTG ATGCACCTC  
27651 ATGTCTCCAT GGCAACCTGC TCAGAGTGTG GCCCTGCCCT TGGTCCCCCT  
27701 CCACACCTGT GTCCAGGCA GTGCCACGGC ACTTTCCTAA ACAGAAGGAT  
27751 GGGCTTCAAA ACAGTCCCAG AACTAAACA CACCTGCATT TTGGGTCCAA  
27801 GTAACCTCTG ACAAGACGAG TGCCCCCTACA CACCTCAGT CCTATCCACT  
27851 ATGGGCAAGG AGCCTGAAGG ATCCCCCAGA ACTGGCTAAA GCCCTCAGTC

FIGURE 3I



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

```
27901 TCCTCCTCCA CCCTGAGCAC CTTCACGCGG CAGAGTGGCC CTGGATGTCA
27951 GCTTCTTGCT CCCCATGGTC TGCACCTGGA CAGGTGCTCT CAGGTGTGTG
28001 GGTGGGCAGG TGGCAGGTCC CAAGAGCCAG GTGCAAAGAA TCTAGGCCAG
28051 TGCCACAGAG TGCTGCAGTG TCTGTCCCA GCATGGTATC TAGGGCTCCA
28101 CTTGCCTATC AGCTGTAATC GGAGGAGGCT TTCCAGGCCA GGCCTCCCCC
28151 AGGAAGGCTG CAGGCACTGC GGATCGTGCG CCCTCACATG CATTATTCTT
28201 GAGGCCCTTC TGCAGATGCC ATCAGGGCAG CAACTCTGAT GAGGTATTAG
28251 GGCACAGCAC ACAGGGCTAA GCCACCCTGT ACTGGGCCAA GCGCTACAGG
28301 CAAAAAGGAC ACCACCGACG GGCATTTCAT TCATCGCTTT TATTTTATA
28351 TATTTTGTAG AGGGAGCCTC ACTCTGTCGC CCAGGCTGGA GTGCAGTGGC
28401 GCGATCTTGG CTCACGCAA CTTCTCCCTC CTGGGTTC (SEQ ID NO:3)
```

**FEATURES:**

Exon: 232-340  
Intron: 341-431  
Exon: 432-515  
Intron: 516-1110  
Exon: 1111-1205  
Intron: 1206-1424  
Exon: 1425-1547  
Intron: 1548-1981  
Exon: 1982-2065  
Intron: 2066-3015  
Exon: 3016-3058  
Intron: 3059-4102  
Exon: 4103-4177  
Intron: 4178-9088  
Exon: 9089-9126  
Intron: 9127-9303  
Exon: 9304-9375  
Intron: 9376-10898  
Exon: 10899-10943  
Intron: 10944-12713  
Exon: 12714-12762  
Intron: 12763-17130  
Exon: 17131-17133  
Intron: 17134-22868  
Exon: 22869-22944  
Intron: 22945-23137  
Exon: 23138-23154  
Intron: 23155-23475  
Exon: 23476-23705  
Stop: 23706

**CHROMOSOME MAP POSITION:**

Chromosome 7

**ALLELIC VARIANTS (SNPs):**

DNA				Protein		
Position	Major	Minor	Domain	Position	Major	Minor
487	T	C	Exon	55	H	H
496	T	C	Exon	58	L	L
1662	T	C	Intron			
1785	T	A	Intron			
1889	A	T	Intron			
2416	C	T	Intron			
4698	A	G	Intron			
5424	C	T	Intron			
8722	C	A	Intron			

**FIGURE 3J**



O.I.F. = J.C.  
MAR 2 4 2003  
PATENT & TRADE

Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

9982	G	A	Intron			
10951	C	T	Intron			
12603	T	C	Intron			
14583	C	T	Intron			
17290	T	C	Intron			
18188	C	T	Intron			
19911	A	G	Intron			
21328	C	A G	Intron			
21391	T	C	Intron			
22588	C	T	Intron			
22965	-	G	Intron			
23498	G	A	Exon	312	R	R
23663	T	C	Exon	367	S	S
25427	A	G	Beyond ORF (3')			
27727	C	T	Beyond ORF (3')			
27834	T	C	Beyond ORF (3')			
28336	G	A	Beyond ORF (3')			

Context:

DNA

Position

487

CACCTCTGGGTTTAAACAACATGCACCCTTGTGCCGGTCACCTCCCTGCAGCCGGAGAAC  
CTGCTTCTGGCCAGCAAGTGCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCT  
ATCGAGGTGCAGGGGGACCAGCAGGCATGGTTTGGTGAGTGCCAGGGGCAGGGTGTGTTG  
GCTGGCAGTTGGCAGGGCAGGAGGTGATGCTGACAGCCCCTTGTGGCCTCTTCCCCTCTC  
TCTAGGTTTCGCTGGCACACCAGGCTACCTGTCCCCTGAGGTCCTTCGCAAAGAGGCGTA  
[T, C]  
GGCAAGCCTGTGGACATCTGGGCATGTGGTGAGGCCTGGCCTGAGTTGGTGCGGGGCAGG  
GCCTCGGGTGTTCAGGACTTCCCACCTACATCCTGGAGTGTGCAGTGGCCAGCACGTCT  
TGCTCTCATCTGGGTTTATCTGTGTGCAGACCTGCCCTTGAGCTGCCCTGGCAGGGGTCTG  
CCCACACAGCCAAGAGCCCCCTTCCACCCAGATTAGAATTGCTCACATGAACCTGGCGC  
ACCCAGTGCTCGCCTGCGCTCAGCAGAGGTCTGGTCCAGAAGTGTGGTGGGTGGATGGG

(SEQ ID

NO:5)

496

GTTTAAACAACATGCACCCTTGTGCCGGTCACCTCCCTGCAGCCGGAGAACCTGCTTCTG  
GCCAGCAAGTGCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCTATCGAGGTG  
CAGGGGGACCAGCAGGCATGGTTTGGTGAGTGCCAGGGGCAGGGTGTGTTGGCTGGCAGT  
TGGCAGGGCAGGAGGTGATGCTGACAGCCCCTTGTGGCCTCTTCCCCTCTCTCTAGGTTT  
CGCTGGCACACCAGGCTACCTGTCCCCTGAGGTCCTTCGCAAAGAGGCGTATGGCAAGGC  
[T, C]  
GTGGACATCTGGGCATGTGGTGAGGCCTGGCCTGAGTTGGTGCGGGGCAGGGCCTCGGGT  
GTTTCAGGACTTCCCACCTACATCCTGGAGTGTGCAGTGGCCAGCACGTCTTGCTCTCAT  
CTGGGTTTATCTGTGTGCAGACCTGCCCTTGAGCTGCCCTGGCAGGGGTCTGCCACACAG  
CCAAGAGCCCCCTTCCACCCAGATTAGAATTGCTCACATGAACCTGGCGCACCCAGTG  
CTCGCCTGCGCTCAGCAGAGGTCTGGTCCAGAAGTGTGGTGGGTGGATGGGAGTGGAGAA

(SEQ ID

NO:6)

1662

GAATTCTTGCCCTGCCTGAGAGGGAGCTTCAGGCCCGCCGGGGCGCTGTTTCCTTCTG  
CAGTTCCCGTCCCCTGAGTGGGACACCGTCACTCCTGAAGCAAAAACCTCATCAACCAG  
ATGCTGACCATCAACCCTGCCAAGCGCATCACAGCCCATGAGGCCCTGAAGCACCCGTGG  
GTCTGCGTGAGTCGCCCTTGGTGCCCATGGTGGGAGGGGGCTCCTGGTGGAGATGGCCT  
CAGACCACTCCCCTGGCAAGGACCCCAAGAGGGTCCTGTTCCCTGACATCCAAGAGCTCCC  
[T, C]  
TGGGTCCCCTGGGTGCTCCTTGTGGCCTCTGGCTTGGGACATACCAGCACGTTTGTGAGG  
CCTGGGGCTTGAAGGCATTAGAGGGTAGAGGTGATCCCTTCCCTCCCACTGCAGTCCGT  
TCTGTGAGGGGCAGAGTGGACGAGGCAAGGGAGAGACGAGTCTTGAAGTCCCAGGCGGGT  
GGGGACAGACAACCCTTGCCGCAATGGTGGCCGGTGGCTCTTGGCAAGTGGGGACCCAG  
GGTGCCACAAGCCTTGCCACCCTGGCCTCTCCCCTGTGCCCTCGGGCTCGGCTGCCATATG

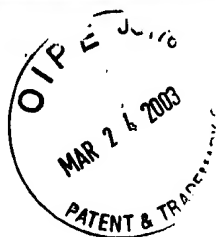
(SEQ ID

NO:7)

1785

CTGACCATCAACCCTGCCAAGCGCATCACAGCCCATGAGGCCCTGAAGCACCCGTGGGTG

FIGURE 3K



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

- NO: 8) 1889  
TGCGTGAGTCGCCCTTGGTGCCCATGGTGGGGAGGGGGCTCCTGGTGGAGATGGCCTCAG  
ACCACTCCCCCTGGCAAGGACCCCAAGAGGGTCTGTCTCCTGACATCCAAGAGCTCCCTTG  
GGTCCCCTGGGTGCTCCTTGTGGCCTCTGGCTTGGGACATACCAGCACGTTTGTGAGGCC  
TGGGGCTTGAAGGCATTAGAGGGTAGAGGTGATCCCTTCCCACTGCAGTCTGTG  
[T, A]  
GTGAGGGGCAGAGTGGACGAGGCAAGGGAGAGACGAGTCTTGAAGTCCCAGGCGGGTGGG  
GACAGACAACCTTGCCGCAATGGTGGCCGGTGGCTCTTGGCAAGTGGGGACCCCAAGGT  
GCCACAAGCCTTGCCACCTTGCCCTCTCCCTGTGCCTCGGGCTCGGCTGCCATATGACC  
ACCCATTTCCCCACAGCAACGCTCCACGGTAGCATCCATGATGCACAGACAGGAGACTGT  
GGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTCAAGGTGAGGCCCTGGCCCCCTAGT (SEQ ID
- NO: 9) 2416  
GTGGAGATGGCCTCAGACCACTCCCCTGGCAAGGACCCCAAGAGGGTCTGTCTCCTGACA  
TCCAAGAGCTCCCTTGGGTCCCCTGGGTGCTCCTTGTGGCCTCTGGCTTGGGACATACCA  
GCACGTTTGTGAGGCCTGGGGCTTGAAGGCATTAGAGGGTAGAGGTGATCCCTTCCCTCC  
CAACTGCAGTCTGTCTGTGAGGGCAGAGTGGACGAGGCAAGGGAGAGACGAGTCTTGA  
AGTCCCAGGCGGGTGGGGACAGACAACCTTGCCGCAATGGTGGCCGGTGGCTCTTGGCA  
[A, T]  
GTGGGGACCCAGGGTGCCACAAGCCTTGCCACCTGGCCTCTCCCTGTGCCTCGGGCT  
CGGCTGCCATATGACCACCCATTTCCCCACAGCAACGCTCCACGGTAGCATCCATGATGC  
ACAGACAGGAGACTGTGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTCAAGGTGA  
GGCCCTGGCCCCCTAGTCCCAGGCACGCCATGCTTCTGTGTCTCCCTCTGGGCTGGAGCA  
GGGGGGCCTTGGGGGTCTGGGCAGACCTAGGGGTTACTGTGCCCCCAAGACTGACTGT (SEQ ID
- NO: 10) 4698  
TCTGGGCTGGAGCAGGGGGCCTTGGGGGTCTGGGCAGACCTAGGGGTTACTGTGCCC  
CCAAGACTGACTGTTAGCAAGTCCCAGACTGGATGCATCAGGTGAACCTCAGGCCAGCTTG  
GGAATGAGTCCAGAGGGGCCCTGGGGCAGGTGTGGCTCCTCCTAGTTGTCTGTGCCACCT  
CCTAGCAGCCCTTGGAGGAGCTGTCTGAAGCGCTCGCTGTGGGCTCCTCACCCGGGCTC  
TGCAGGCAGCACTACCCCTCTGGCAGTCACACTGTTTAGTACAAGCAAGTCCGAAGCTTC  
[C, T]  
GGCTCAGACAGGTTTGGTAAGGAGAGCAGAGCCACACACTGGTCTTGGGTGGGCTGGG  
GGAGTTCTGGGAGGGAGGTGGGTCCCAGTAGGGTATCCAACCTGCCTGCTTTGGTCAGGG  
CTGGCTCCGGTGACCGCACACTGGCAGTCCCTCTACTTGTGGGTTCGCGGATGGGACTT  
GTTGCCTGACTGCCCTCTGTGGTCTCTGAGCAGTTCTCCCCGGAAGCCCCAGGACTGTT  
GCCCTGTCTGAGCCTGTGAGGAAAGAAGGGGCTGTGAGGGAGCTGGACCCAGAGGAGC (SEQ ID
- NO: 12) 5424  
GCTAGGTGGCCCCCTGGGCTACACCAAGCCCTTCTGGTCTTGGCCCCGAGGTCTGGGGT  
CCGGAGACCCCATTAAGAATGGCCCTGGGCCCCACAGGAGCCACTGGGCCTGCTGCTGG  
GGGTCTGAATCCTGAAAGGAGAGCCTTGAAGGAGCAGAGCCAGAGAGGCAGAGGCCCTTG  
GGCAGACACACACCCTGCCCTCTGGGGCCGCATGGAGACGGTGGTCTGTGCTGCTGAG  
TCCTACACATGCATGTCTGCCCTGAGCATCCCCCAGGACAAGCCGCTCTGGAGTGGGTG  
[A, G]  
GGGTTTATGCACCCTGAGGAGACTTTCAAGGCTTCTCTTGGGTGTTTCTGCAAAGTC  
CTCCTCCCCTGGCCTCAAACCTGTGAGGGAAAAGGCCGCACTGGCCACCTGCTCCTCT  
GGGCTGTGCGGGGCCAGAGCCAGAGGCCAAGTTGGCTTCTGCCACCTGCTGGCTTGT  
GACCAT (SEQ ID NO: 11)
- NO: 12) 5424  
CCTCCTCATGACCCACAGGGTGAGCAGCCTGGCCTTCCCAGCCAGAGAACCCTCCTTCTG  
GGGAGGCCCAGGGCGTCTCGGGGAGGGCAGTCTATTCTCCTCCCATGAGCCCAGTGGAC  
GTGCTTAGCAGGCAGCACCCTGGGAGAGCCCTCCCACGTCTTCTCCATTGACAGGCCCTT  
TCCAGAGCGCAGCGGGAGGGGGCTGTGATTAGAAAAGAGTGAGGCTAGTGGCTTCTGGG  
GAGGCACTGCTGCCAGGGGACAGTGTGAGAGACAGCTGCCTCTACGCTGCCCTGTGCC  
[C, T]  
GGGGCTCCCGCTGCAATGCCCGCCTGTCTGCAAGTGAACGTGGGGCGACGGTGCATGAGG  
CCCTGCATGTGTGGCTCCACCCTGGGCGCCGAGAGCAGCTCTGTCTGGAGGGTGGTCAG  
TGCATGTGGACAGAGCCAGCATGGCTGTCTTGGGTGACCAGCTAAGGGGACAAGGCAGA  
GGCAGGGCTGAGAGGACCAACCATCCTGCTAGGTGAGCCAGCTCAGCCATATCACACGG  
CAGTGAGCATGGAGCTCAGTTCTCTGCCAATGGCAGCTGAGTCTAGTACCATCCAGTCAG (SEQ ID

FIGURE 3L



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

8722

AAGGCCTGTGCTGGCCCCAGTCAGTGACAGAAGCGGCCCCAAGGCCAGGGCTGCTGGGC  
AGCTCGGAATGAGGGCGAGCAGGGCTGCCCTTGGTGCTGAGCCAAGGAGCCAATGGGAC  
AGACCTCTGAGCCTGGGTGCCAAGTATGAGGTCTGAGACAGGGTGAGCGCCTGGGCTGGG  
ACAAGGCCCCCTGAGTGGGCGGCCAGCTGCAGCCCCACCCACCCCTACCCAGGAAGGCAG  
GGCCCGGGAGGGCATGACCTCTGGGGTGCTGGCTCAGCTGCCCCACCCCAACCTGACAC  
[C, A]  
GCTAGTCCTGAGTTCCTCATCAGGGAGGAAGCAGCATCCTGCCCTTCTCTAGGAAGAGCTT  
GCATGTGGCCCCAGAAGCCAAGGGGGCTCCCCAGCACCCACGGGCATCTCTGGGTCTGGTC  
AGAGGAGAAATCTGGATGCTTCGAGGAGCCCCAGGGTCATGGAGGAGGCTGGAGACAGGG  
CTGTCTGGGGTGATGGGATGGCCCCCACCCTGCTCAGAGCCAGCCTGGGTGCTGGAAC  
CACACTTGCCCTCAGGACCCTGGGCTTGCTCCTGGGAAAGAGTGGGGTCAGGCAAAGGGG

(SEQ ID

NO:13)

9982

CCAGGAGTGTTTCAGGAAGTCAGTGAGGCAGAAGATACCCTCTCCCCACCAGGACCCACC  
CTCAGCTCCTCCACCATCCTCAACAGGCGGACCCACAGACCACTCCGAAGGTCTGGCTTG  
GTGGGGCTGGGCCAGGATCTGCAGGGGGAACAGCCCATAGTGCCACATTCCACGGCCCAT  
GGGGAGACGGGGCCACGGTGGTGCAAGTAGAGAGGTGTCTAAGCCAGTGGCAGCCAAGGGG  
AGGGCTTGCCGTACCTCTGTGTTCCTCAGTGCTGCTCTGTGGCTGCCTGAGAGGCAGG  
[G, A]  
CTTAGGGGCTCCCTGCCGGGAGGGGAGGGGTCCCCACCATGCTCCGCTCCAACCTGCGCC  
CCTCAGTGCCCTTGCCCTGGGGGCTCCTACAGGTGAACCCTATAGCAGTACTCCCAAGG  
ATGTAAAGTTGTGGCTGGTGGGTGCCGGCCTTCCTGCTGGGGCGCTGTGCTGTGTCCCT  
CAGCTGTCTTAAGAGCTTTGGGGCTTGCTGGCCCGTAGGTCCCCATATTTGCTGGAAGCA  
GGCTTGGTGTCCCTGAGAACCCAGGCCAGGCTTCGGGAGCCAGCCCCAGACCGCCAC

(SEQ ID

NO:14)

10951

ACAGCAGCACCTCCGCCAGCCTGGACAGAGCTCCTGTCCATTCCATCCCTGCCGGCTGAC  
CCAGGCTCCTCCCCAGCTGCTCCACGCGCCTCCATCCCTGTCCCCACTCTGCTCTGC  
ACTTCTTTCTCGCAGGCTCTGGCCACCCACACCTCCTCTGTCTCCCTGTTCCCTCCTGG  
TGGTCTCCGCTTCTCTCTTCTCACTTTCCTCTCTTTCCTTCTGTGTCTCTCTTC  
TTCTGTAGAGCCTCAAACACCGTCATCCATAACCCAGTGGACGGGATTAAGGTACTGC  
[C, T]  
CCACTTTCCTCCTCCCGCTTTCCCCAGGCAGGAGGCTCCAGGCCAGGAGAGGTCTGGG  
GCAGCATTTGTGCCAGAGTGGAGGGCAGATGTCCATGGCCCTGGCCGCCCCCTCCCCGCA  
GTACGGTAGGGCCCCAGTCCGTCTTCGTGGGCAACAACAGGACAGACTGGCTCAGGCCCC  
AGGCGCGCCCCCTGGAGGTGCTTGGCACAGTTGCGCCCGGTCCCCATGTGGCCGACACTCT  
CAGACCAGGGCTCTGCGTGTCCACCTACGGCAGGCAGTAGGGCTTCCTGAGGTCTGGAG

(SEQ ID

NO:15)

12603

AGTCTCTCTGCCAGGCTCATCTTGCTGGGAGAAGTGGAGCCCTCATGTGTTGGGGATGCA  
GGGTGGCCACAGCACTAGGGTGGCAGGGCCGGCCTCGGACTCCGTGCCAGCCTGTGCTGG  
CTGCCGTGAGAAATGCACCCCTGGTGAGGGGCGCCCTCCAGGGACCAGCACAGAACTGGGT  
GTCTTCTCCGGTCACTGCCCATGAGGTCCACAGAGCTGGGGCCCTGCAGCCGCCAGAGG  
GCATGTCCCCTGAGCCCCCTGGCCTTTAAGCCCCGTGGAAGCAGCCGAGGCAGAGATCAGC  
[T, C]  
TCAGAGCCTGGGCTGGTCTGTGACACAGGCCACGCCCTGTCCACCTGCCCTCAGCCACGTC  
CCACCTATCCTTGGCCGCATCCTTGACCCGCTGCCCTCCCGTGTTCCTCAGGAGTCTTCTG  
ACAGTGCCAATACCACCATAGAGGATGAAGACGCTAAAGGTACCTGCACTTGAGTCCTTG  
CCCCCCCAGCGGCTTGGCATTGCTGGGTGCTCTTTGAGGTGGGTGGGACTTGGGCAGG  
GTCAACTCTCCTGCGACGCCTAGTTTATGCATGTGTTGAGGGGCTCAGGGACCCTGTAGC

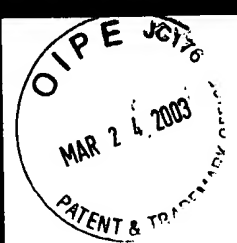
(SEQ ID

NO:16)

14583

ACATCCTGAGCTCAGTGAGGAGGGGCTCGGGAGCCCCAGAAGCCGAGGGGCCCCCTGCCCT  
GCCCCATCTCCGGCTCCCTTTAGCCCCCTGCCAGCCCCATGTAAGTAGCCTGGGTCTGTCT  
GCTGTGGGGGTCTGTTGGAGGGCTGGCAACCCCTAGAGGGGCCACTCCAGAGCCGAGG  
GCAGGCTGAGCGTGGACCCTGGCTCCAGCCTCATCACCCACAATCCCTCACTGGGGCTT  
TCCAGGCTGGCCCCAGCCCATCGAGCCCCACCTCTTTGTGAGGAGGGCCCTGGACCCTT  
[C, T]  
CCTGCTCAAGGCCACTGGGCAGGATGGGAGGCCCTGGAGGCTCGGGCCTCAATTCCAGTC  
TTCAGGGTCGGTGACGGCCTCACTCCACCTCAGCTTGCGGGCGGGGGGCTCCCTGCTAT  
TGAGGCAGGCTCTGATTAGGGCCTGATCCAGGGCCCCAAGGGGTCTAGAACACGGGACC  
CCTCCCACTGGCCTCCTCCGCTTGCCGCGCCCTCGTGTGTCTGTCTGCCTCATGTTAC

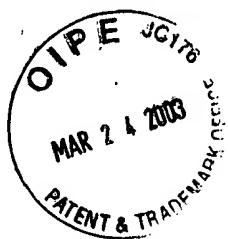
FIGURE 3M



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

GTCTCATCTGTTCCACCCAGCCCCAGGGATCTCTGACATCCTGAACTCTGTGAGAAGG (SEQ ID  
NO:17)  
17290 CTGTCCCTTGTGCCCCATCCCCACATCTGCTCTGTGCCCCCAATCTCTGGCTTGGC  
TGTCTGCCCATGGTTTCTCTCCTGCGTGCCCCCGTGCTGCCTTGTGTTACGTCTCGT  
CTGTTCCGCCCCAGCCCCAGGATCTCTGACATCCTGAACTCTGTGAGGAGGGGCTCAGG  
GACCCAGAAAGCCGAGGGCCCCCTCGCCAGTGGGGCCCCCGCCTGCCATCTCCGACTAT  
CCCTGGCCCCCTGCCACCCCATGTAAGTAGCACCTTGAGTGGCCGTGGCAGCGGCTGCC  
[T, C]  
GGAGGGGCTCGGGGCGTGCGAGCCTGGCAGTGGTGCTCTGGGAAGGGCCATTCTTGCGGA  
GGAGGGCGGGGCACAGGATCCCTCTGCTGGGTCCCAGGGAATTGCTTTGAAGCACATGAA  
GGTGCCACTGGGTCTCAGAAAATGGAGGTTATGGTTATGAAGTGTGTATGACATATGTGT  
ATAGGAAGAGCGTCCGAAAGAGCAGGTTTGTGCCGACCCAGCATTTCGCAACCCTGAGG  
TCCACAGCTTTCTCCTGATGGGAGGGGAATGGGTGGCAAAGGTCTGCGCGTGTGGCAAG (SEQ ID  
NO:18)  
18188 ATCCCAGGGCTGCTGCCACCCACCTGTGGGGAGACACCAGACTGGGGGTGGTGTGGAG  
ATACTCTTAGAGAAGAGGCTGCTGGGCCACGGGCTCGGCATGGCAGGGCAGTGGCTAGGT  
AAGTACTTAGAGGACAGGTGGGGTCTGCTTGCCACCGTCCCCTCTGCAGGCTGGGCCTGG  
GGGCTGCTGCAGGCGGCCAGGGCAGAAGGGTGTGGGGAGAGTGAACCCACAGGAGCAGCG  
GCTCGAGGAGGGGATGCAGGCTGCAGGCTCAAAGGGGCACTGGATCCACCCTGGGTGCC  
[C, T]  
GAGAGAGCAGGGGGCAGCCCCCTGGAGGGGTACTCACCCCCAGAGCTTCTGTGGTGGCTG  
AGGACCCCCAGCAGGGGTTGACTGAGGGGATCAGAGGCAAGCAGCTGAGGGGAGAGGCCA  
GGTTCTTGATGCTGATAGGGTTCGGGGTGCCCTGGGCGACCAAGTCAAGGAGGGAGGCAT  
GGGGAGGGGCGCCGTGCAGCTGGGGTGGGTGCACCGCAGAGCCTCTGGGAGTGGTCTAGA  
ACCCCGACACCTGCCACTTCTACAGCAGCTCATCTGATTTTAAGGGGCTTGCTGCCCTT (SEQ ID  
NO:19)  
19911 AGCAGCGTTACCACTCTTGATTGGAACCTCTGACCATGCATCTCCTCTTCTGTTTACTTCA  
CGCTTTCTCTTCCCATCACTCCCATTTTAATTACAATTTGTTTAAAAGCACTGCATATT  
ACTTCATTAACAGAAAGATTAGTTTCACTTACCATTAGTGTAAGGTGACTATAGAACCA  
AGCAGACTGGAAACCAATGACATAATGTCTTCTCTCCATTCCAGCTGCCTGCTGC  
TGTGCGCCTGAGAACCCCTGTGGAGTGGGAGGGGCAGCTGTCTCTGTACATTAGAAAGGG  
[A, G]  
GGTTAACTAAGTGACAGGAGGTGTTTGGGACATGTGGACACCAGACTTCTCTCTTGATGC  
AAGGAGGGCAGAGCCAGGCAGCCTAGTGGGGGCTGGCTTGGGGGCTGCTGGAAGGACTGG  
CTACAGGTGGAAAGAGAGGTGACACCTGAAGCTTGGGGCCACCTCCAGGAAAGGACAGGTG  
AAAGTGGAGGCATGAGGCAGGGGAGAGGCAGGTGCCAGGCAGAGGGTGGAGAGGAGGCAG  
GAACATAGCAGCTGGGGCGGGGCGGGCCCTCAAGTGTCTATGTACTTTCTGGGGCC (SEQ ID  
NO:20)  
21328 GCTGGGCACAGTGGCTCATACCTGTAATCCCAGCACTTTGGGAGGCCGAGGTGGGCAGAT  
CACTTGAGGTTAGGAGTTTGAGACCAGCCTGGCCAATATGGTGAAACCTCATCTCCACTA  
AAAATATACACACAAAAATTAGCTGGGTGTGGTGGTGTGCACCTGTAGTTCCAGCTAC  
TCGGGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGTCAGAGACTGCAGTGAGCCGA  
GATCATGTCACTGCACTCCAGCCCGGTGACAGAGTGAGACTCCATCTAAAAAAAAAAAA  
[C, A, G]  
AATTCCTCTCTGGGAATTTAGACCACAGACAGGTTGCATGTATGTGGCCGTTGGAGGC  
AGCACTCACAGCAAAGAGTGGAACGTCAACCACAGGGCCTGCCTTCTGGTGAAAATGGTG  
TCCTGCAGGGCGGGCAGCTGTTTGGGGCAGGTGTCCAGGTGCGGCCCTGCAGCAGCCTG  
AGGGTCACAGAGCGCAGTGTGGGAGTGCAGAGACTTCCCCACAGGGAGAGTTCCAGG  
AACCTGCTTCCGGTGCACCTTCTGGGGGTTTGGAGTTTTCACGGACGAATTACTTTGAG (SEQ ID  
NO:21)  
21391 TTGAGGTAGGAGTTTGAGACCAGCCTGGCCAATATGGTGAAACCTCATCTCCACTAAAA  
ATATACACACAAAAATTAGCTGGGTGTGGTGGTGTGCACCTGTAGTTCCAGCTACTCG  
GGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGTCAGAGACTGCAGTGAGCCGAGAT  
CATGTCACTGCACTCCAGCCCGGTGACAGAGTGAGACTCCATCTAAAAAAAAAAAAAGAA  
TTCCCTCCTCTGGGAATTTAGACCACAGACAGGTTGCATGTATGTGGCCGTTGGAGGCAG  
[T, C]  
ACTCACAGCAAAGAGTGGAACGTCAACCACAGGGCCTGCCTTCTGGTGAAAATGGTGTCC

FIGURE 3N



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

NO: 22)

22588

TGCAGGGCGGGCAGCTGTTTGGAGGGCAGGTGTCCCAGGTGCGGCCTGCAGCAGCCTGAGG  
GTCACAGAGCGCAGTGTCTGGGAGTGCAGAGACTTCCCCACAGGGAGAGTTCCCAGGAAC  
CTGCTTCCGGTGCACTTCTGGGGTTTGAGTTTTCACGGACGAATTACTTTGAGAAA  
CCACTGTTACTCGTGTGTATAGGTGAGCGTGCGTGTGCATGTGTGTTCTGTGTGTGAGTG (SEQ ID

NO: 23)

22965

GCTGCTTCCTCCTCCCCGGCCTCCGGGTGGCCTTGCTGACGGCTCCTTCTCTGAGGCAGG  
TCTCTGCCTTCTCGCCTGGTGCCTGCACTCAGTAGCCCCCTCACCAGAGCTGCTGGGTGA  
AGGAAGCACTAAGAACCCAAGGCTCGGGAGGAGAGTGGGGCCGGGAAGCTGCAGGGAAGC  
GCAGGGCCAGGCCCTGGTGGGCCAGGGGCTGGCTACGGGAGGGCAGGAGGGAGACTGTG  
GCGGACAGCACGTGGGGCCAGGAGGTGACCTCCAAGTGGATTGTGGGTGGGTTTTTTGTC  
[C, T]  
TCTTTCTGCATTTTCCAGGCATTTTGTAAATGTGGATAGAATATTCTGTTCTTCAAAAT  
ACTTTAGTTAAGAAAAATAAGATGGAAGCTGTTGCACTTGAAAATGAGGAAGCCACTGGT  
GATGCAGGGGGGGCGGCGGAGAGGACCTCTTCTGCAAATAGCGGCAGGAACACGGCATGG  
ATGCAGCTCGCGTCCCCAGGCCCTCCCCTGGGCTGTGTGGAGGGGTCCGGGGGGAATG  
GGCAGCGCCAGTGGTCACCTGGCCATGTCTCCCCACAGCCCGGAAGCAGGAGATCATT (SEQ ID

NO: 24)

23498

ATAAGATGGAAGCTGTTGCACTTGAAAATGAGGAAGCCACTGGTGATGCAGGGGGGGCGG  
CGGAGAGGACCTCTTCTGCAAATAGCGGCAGGAACACGGCATGGATGCAGCTCGCGCTCC  
CCCAGGCCCTCCCCTGGGCTGTGTGGAGGGGTCCGGGGGGAATGGGCCAGCGCCAGTGG  
TCACCTGGCCATGTCTCCCCACAGCCCGAAGCAGGAGATCATTAAAGACCACGGAGCAGC  
TCATCGAGGCCGTCAACAACGGTGACTTTGAGGCCTACGCGTGAGTCCCTGGGGCTGGGG  
[-, G]  
GGGGCTGTGCAGGACAAGGATGTGGGACCCCTTGGGGGGGCTGCTCAGAGTCAGGGGTCC  
ACGGGGCCCCCTCCTCACTTGGATTTGGCCCCCAGGAAAATCTGTGACCCAGGGCTGACCT  
CGTTTGAGCCTGAAGCACTGGGCAACCTGGTTGAAGGGATGGACTTCCACAGATTCTACT  
TCGAGAACCGTGAGTGAGGAAGCCCGGTGGGCATGAGGGGGCGGTGCCCCCAGGAGAGC  
CTCTCGGCCCTCCCAGGACAGCATGGTGGCTGCCTATGGAAGCCCTGTCCCCTCTGTG (SEQ ID

NO: 26)

25427

GCCTCCCCAATAAGGGGAGTTGAGAGAGGGAAAGGATTAGGCTGGTGGGGTGGAAGACGG  
GCACCAGGGCAGTCATGGTAACCCGAGACCCCGCCCCGCTGTGTCCACAGTGCTGGC  
CAAGAACAGCAAGCCGATCCACAGCACCATCTGAACCCACACGTGCACGTCACTGGAGA  
GGATCCCGCTGCATCGCTTACATCCGGCTCACGCAGTACATTGACGGGCAGGGCCGGCCCGCACCAGCCAGTCT  
CCGCACCAGCCAGTCTGAGGAGACCCGCGTGTGGCACCGCCGACGGCAAGTGGCAGAA  
[T, C]  
GTGCACTTCCACTGCTCGGGCGCGCCTGTGGCCCCGCTGCAGTGAAGGTGAGTGTCTGT  
GCTAAGTGACAGCTGGGGCAGAGGGGTGGCGGTGGTGTGAGTGGCTGCAGCCTGGGGAGG  
CGATGGGGAGCGGTGGGGCCTGTGGCAGAGCCCATGCCTGGGAAGTCCCTGAGCTTTCTT  
GGTGAGGCCACAGGAATGATGTCAAATTAGGGACCACGGCAGGCTGGGTGTGGCAGGCCT  
CCCCAGAGGACTGGGGAGCTGGTGGGGCCTGAGCAGTCCACACTGGCCAGAGCTGGGTG (SEQ ID

TGTGGCAAGAGGACTCTGCCTGGGTGGCCCCCTCCTGTGTGAGGTGTCTGTCCCTTCT  
CTGCTGGCCAGCAGCAGATGCACTGGCAGCTCCCAACCCTGTTTCCGCCCCCTCGGCCCTC  
CCCCAGCCTGTTTCGGCTTCTCTGCAGCCCGCAAGGGGGAGCAGACTTTTGACAAAGGACT  
GCGGGCCTCGCTCAAGTCCCTGAGCCCCCAGCTGAAGCTGGGAGGGGAGGCCAGGCTTTG  
TGTCTGGGCATATTCTGTCTGTATGGGGTTTGGGAAGCCTGGGGCTTGGGGTTTGGTCT  
[A, G]  
GGTGGTGCAGCTAGTGGCAGAGCGGGATCAGAGGTGGTGGCTGCCAGCTTCTGGGCTGA

FIGURE 30



Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

NO:27)

27727

GACAAGGGTCTGTGCAGGGGTTTACTGAAGTGGGAGTGCCTTTGGAATCTGGGCCGGGAG  
CAGAAGGGAGCAAAGCTACAGTGGGAGCCAGCCTAGGGCACATGGGAGGCGTGAGGGCA  
GTGCTGCCCCGTGCAGTGTGAGGTGTGCCAGTGCCTTGGCGGGCTGCAGTGCCTGTGAGGG  
CACCTTCTAGGTGGGCCAGGGATGCAGCTATGGAGATAAGGCGGGCTGGGACAGAAACA (SEQ ID

NO:28)

27834

GCAAACTCTTAGGTTGGAGTAAGGAGTAACCCCTGCCAAGTTTCTCCTGTCTCAGGCT  
CCACCCACCACCTATGCTGCCTGGCCCCATGGGGCACACGCTCAGGCCCAGCCTGGGAAA  
GCAACTGCACCTGCCTGTGCTATGCTGGCCCTTCTCAGCCTCAATGCCCTCCTCCCTCCC  
CGACGCACCCCTCGTGGCCCCCGCTGGGCCCCCTGATGCACCCCTCATGTCTCCATGGCAAC  
CTGCTCAGAGTGTGGCCCTGCCCTTGGCTCCCCCTCCACACCTGTGTCCAGGCAGTGCCA  
[C, T]  
GGCACTTTCTAAACAGAAGGATGGGCTTCAAACAGTCCCAGACACTAAACACACCTGC  
ATTTTGGGTCCAAGTAACTTCTGACAAGACGAGTGGCCCTACACACCCTCAGTCTATCC  
ACTATGGGCAAGGAGCCTGAAGGATCCCCCAGAACTGGCTAAAGCCCTCAGTCTCCTCCT  
CCACCCTGAGCACCTTCACGCGGCAGAGTGGCCCTGGATGTCAGCTTCTTGCTCCCCATG  
GTCTGCACCTGGACAGGTGCTCTCAGGTGTGTGGGTGGGCAGGTGGCAGGTCCCAAGAGC (SEQ ID

NO:29)

CCAGCCTGGGAAAGCAACTGCACCTGCCTGTGCTATGCTGGCCCTTCTCAGCCTCAATGC  
CCTCCTCCCTCCCCGACGCACCCCTCGTGGCCCCCGCTGGGCCCCCTGATGCACCCCTCATG  
TCTCCATGGCAACCTGCTCAGAGTGTGGCCCTGCCCTTGGCTCCCCCTCCACACCTGTGTC  
CCAGGCAGTGCCACGGCACTTTCTAAACAGAAGGATGGGCTTCAAACAGTCCCAGACA  
CTAAACACACCTGCATTTTGGGTCCAAGTAACTTCTGACAAGACGAGTGGCCCTACACAC  
[T, C]  
CTCAGTCTCTTCCACTATGGGCAAGGAGCCTGAAGGATCCCCCAGAACTGGCTAAAGCCC  
TCAGTCTCCTCCTCCACCCTGAGCACCTTCACGCGGCAGAGTGGCCCTGGATGTCAGCTT  
CTTGCTCCCCATGGTCTGCACCTGGACAGGTGCTCTCAGGTGTGTGGGTGGGCAGGTGGC  
AGGTCCCAAGAGCCAGGTGCAAAGAATCTAGGCCAGTGGCCACGAGTGTGTCAGTGTCTG  
TCCCCAGCATGGTATCTAGGGCTCCACTTGCCTATCAGCTGTAATCGGAGGAGGCTTTCC (SEQ ID

FIGURE 3P



28336

Docket No.: CL001204  
Serial No.: 09/820,790  
Inventors: Wei SHAO et al.  
Title: ISOLATED HUMAN KINASE...

AAGAATCTAGGCCAGTGCCACGAGTGCTGCAGTGTCTGTCCCCAGCATGGTATCTAGGG  
CTCCACTTGCCTATCAGCTGTAATCGGAGGAGGCTTTCCAGGCCAGGCCTCCCCAGGAA  
GGCTGCAGGCACTGCGGATCGTGCGCCCTCACATGCATTATTCCTGAGGCCCTTCTGCAG  
ATGCCATCAGGGCAGCAACTCTGATGAGGTATTAGGGCACAGCACAGGGCTAAGCCAC  
CCTGTACTGGGCCAAGCGCTACAGGCAAAAAGGACACCACCGACGGGCATTTATTTCATC  
[G,A]  
CTTTTATTTTATATATTTTTTGAGAGGGAGCCTCACTCTGTGCGCCAGGCTGGAGTGCAG  
TGGCGGATCTTGGCTCACTGCAACTTCTCCCTCCTGGGTTC (SEQ ID NO:30)

FIGURE 3Q